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THE MIND OF THE CHILD

A COMPARATIVE HISTORY OF LIFE

BY

W. AMENT, PH. D.

WITH 44 ILLUSTRATIONS AND ONE VIGNETTE



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PREFACE

The revolution in our methods of education has at present, more than ever, directed our interest to the mind of the child, as one of the fundamental factors involved. Of general interest for all men of understanding, knowledge of the mind of the child is qualified, better than anything else, to awaken interest among larger spheres of people in the problems of education, which are at present not very popular, and to work for the strengthening of the inner nucleus of our entire civilization. Especially for mothers, the first and most important educators, it will be a welcome aid in helping them to fulfil their holy duties, not blindly like the beast, but intelligently, as man should, with the consciousness of the character of her task and its high moral responsibility. This little book is therefore, dedicated to *Mothers and to prospective Mothers*. In it we have tried to present, in an unassuming manner, the young science, which to day experiences its second golden age with more chance of success than it had at its birth a hundred years ago.

In order to forestall erroneous judgments once for all, I remark to the expert critic, that this little book in its main points represents the *biological* point of view, and in consequence depends just as much, or even more, upon the results of observation than upon experiment. The scientific proof of this point of view, which I adopt for the science of the child's mind as an independent science, can naturally not be given in this place, but must be put off for a larger general exposition.

The accompanying illustrations are probably the first attempt to illustrate a *biological* book on the mind of the child, or perhaps a book on the mind in general.

For procuring the material, the illustrations, permission of reproduction, and various other favours I owe much gratitude to many persons, not least to the activity of the publishers, their interest and their far-reaching concessions, which gave me as much leeway as was possible in making the illustrations. I wish to accord my heartiest thanks to all of them.

Where do our souls come from? The inquiry into the origin of one's own inward being has from times immemorial occupied the mind of man, always and everywhere.

Wilhelm Ament



Our ancestors believed that the souls which had soared to Heaven, waited in the company of the gods, on the cloud-mountain and in the cloud-well, near Mistress Holda, until they should be returned to earth again for a new birth in another body. This country of souls was therefore called by them the Children's Country, the elfin, or Pomeranian, country, and Mistress Holda's cloud-well the Children's well. The rain-birds, stork and swan, or the lady-bird, which in ancient times was consecrated to Mistress Holda and in Christian times to the Holy Virgin, carry the souls down to earth to pregnant women. Later on, the cloud-mountain, the cloud, or children's-well and the cloud-tree were transferred to earth; and there arose the nursery tales, according to which the children were brought to their parents by the stork who picked them out of wells, or caverns, or from mountains or trees where they were growing.

Lady-bird, fly away!
 Thy father is in the war,
 Thy mother is in Pomerania,
 Pomerania has burned down.
 Lady-bird, fly away!

This old, old nursery-song, which in these words and many other variations, we ourselves have sung hundreds of times, and which is still sung daily by our children (but which all of us do not comprehend entirely), has preserved the kernel of the ancient myth in living freshness up to this day. Unfortunately the Christian faith changed the pagan name of Mistress Holda to that of the Virgin Mary, and that of the elfin-land to England; and popular mythology long ago er-

roneously substituted Pomerania for Pommerland and England, which often appears in its place, for angels-land. Thus this verse nowadays is quite devoid of sense, although in former times it possessed a very clear meaning. Probably, in view of the glorious evening-glow, the Holda-beetle was exhorted to fly home, as its country, the Holda-land, in which its mother lived, was in danger of the giants; its father, Wotan, had gone to war against them; the great world fire had broken out and had even completed its destruction: Holda-land has burned down!

Further more, in the children's game *Mistress Rose*, which is still played in some parts of Europe, there has very probably been preserved an old heathen chorus-round dance, which represents the goddess, carrying the souls of the children in her lap and allowing them to be fetched down to earth. A row of children sits on the ground, or one behind the other on a staircase, sometimes in each others' laps. One child goes around questioning. It asks the first one:

Where is Mother Rose?

Answer: Behind me.

It continues asking, until the last one makes itself known as Mother Rose. From her it requires a pot, a lamb, a chicken, or something else, which at first is denied, but afterwards given. The child then takes away the first child in the row. The game repeats itself until at last there is only one child left, i. e. Mother Rose, herself. *Mannhart* sees, with good reason, the old heathenish Mistress Holda in Mother Rose, and in the children which are required from her as pots, lambs, fowls etc. the personified children's souls, which are believed to be resting in her lap.

The Christian faith has imagined the origin of souls in quite a different manner from the old popular belief. God creates the soul. It is true that people could not come to an agreement as to the special manner in which this proceeds. At first it was believed that God had created all the souls in the beginning of Creation and kept them somewhere in the meantime. This very old view carries, as we know, the learned name of pre-existence (from the new Latin *prae-existencia* pre-existence, thus about as much as "defence of pre-existence"). Moreover it was believed, that through engendering of man, only the body of the parents is propagated, but not the soul, which was created directly by God. The representatives of this opinion took the name of *creationism* (from the Latin *creatio*, creation, thus something like "defence of creation"). Lastly it was believed, that body and soul of the parents were propagated, so that the soul was

only an indirect creation of God. This view is the *Traducionism* (from the Latin tradux, layer, propagation, thus something like "defence of propagation") or *generationism* (from the Latin generatio, engendering, thus meaning the same). These three views present an historical development, and, as may be seen at once, also a development in the actual perception. The old faith purified itself the nearer it got to actuality.

More serious than the popular faith of our forefathers, although not less poetical for those who are able to comprehend its deepest spirit, is modern *science*. Where popular faith had satisfied their thirst for knowledge with fancy alone, science takes up these questions with understanding also. With both these resources it seeks to penetrate below the surface of things deeper and deeper into their mysterious being, and is able at last to place, as the ripe fruit of its pains and its willing sacrifice real experience in the place of fanciful poetry, and serious knowledge in the place of poetical tales. Several spheres of practical life — educational, medical, legal etc. — all have their interest in this science, and imparted the original motive for its study. In return, this science has given them an exacter knowledge of the child, bearing a totally different aspect from the views of venerable faith, as the reader will observe in the following pages.

CHILDHOOD

The unborn child

The uninterrupted range of development of the unborn child is known from about the 14th day. A foetus of about 14 days, shows in rough traits the first traits of the body, without its being possible to observe the laying out of the special external organs. The whole structure has something wormlike in its structure. Towards the end of the third week there appear very remarkable changes: The four gill-bows and between them the gill-splits are fully developed; among the organs of senses, which all originate from the skin, the first organ of sense, the nose begins to develop in the formation of two nostrils or smelling-dimples and the eyes as black spots, and furthermore the limbs as short, fin-like protruberances.

In the 2d month, the development continues rapidly in the direction of human resemblance, so that at its end the human form in miniature is completed. During that time, the nose,

the mouth, and the ears develop: through the growing together of the gill-bows and gill-splits the face begins to appear. Out of the first gill-bow arise the upper and under-jaw, out of the second the bone of the tongue, and, also out of parts of the 1st and the 2nd, the ear-shell and the small bones of hearing. The gill-split which lies between the 1st and the 2nd gillbow remains open throughout life, as the ear-passage. The limbs continue their development up to the intimation of fingers and toes. In the 3rd month, the limbs develop to the nails. In the fourth month all parts become much larger. In the 9th the child becomes ripe for birth, but is not really fully developed for a long time to come. Its most important organ, the brain, especially, is yet little developed. Even the nerve-fibres of the outside of the cerebrum, the true seat of the mind, still lack most of their marrow. Only some low conductors of the senses (conductors from the organs of sense to the cerebrum) are completed. The others develop only by degrees. Only in the beginning of the seventh year of life can the development of the brain be considered as completed. That is why the child, on coming into life, needs the help and protection of mother and father more than the off-spring of other living creatures.

The question whether the unborn child manifests *mental functions*, has often been raised and is of practical importance also for its nursing. Trials and deductions — part simple and superficial and others intricate — have shown that it possesses in substance the *faculty* of our most primitive expressions of mind, *motion and perception of sense*. But it is a difficult question to determine how far it is offered, in the mother's womb, *the occasion* of manifesting itself, and how far such manifestations may pretend to have a real *mental importance*.

Every mother knows, that towards the middle of the period of pregnancy, about from the 6th to the 7th month, the *movements* of the child begin to be felt. *Preyer* rightly believes them to be in reality even earlier. Many children move little and feebly, and are therefore scarcely felt by the mother, and others move often and violently, and the mothers then speak of "bad children" while they are still in the mother's womb. According to *Preyer* however the child's movements should not be considered as mental ones. As the headless abortions which sometimes occur and which therefore do not possess a cerebrum, but only a spinal column, move quite as much, the conclusion is obvious, that the movements of the limbs take place without the participation of the cerebrum, through the spinal column, alone. He attributes them to inner

bodily causes, to impulses (from the Latin impulsus, impulse, motive) without external stimulus. (These, if they asserted themselves, could not be efficacious). Preyer, therefore, calls these movements *impulsive movements*. On the other hand, he remarks upon the extraordinary way in which the child, through these movements, places itself in the womb in exactly the position "which scarcely allows one to gainsay the ancient conception that it places itself in the position of least external pressure". This would therefore denote, that the *feeling* and *willing* cerebrum has, nevertheless, begun to play a part between spinal column and movement. The movements of *swallowing and breathing* of the child, which floats, as is known, in the amniotic liquor, are however established with greater certainty. They are the first reflexive movements, of which we shall hear more further on.

In answer to the question whether the unborn child already possesses *perceptions of the senses*, we regret to possess no information except what has been observed in the movements of the child as felt by the mother. We must however conclude with the observation that prematurely-born children are in general quite as sensitive as full-born ones, that they have for some time before been so in their mother's womb. Preyer has also established on pregnant animals, for example on guinea-pigs, that the young ones inside and outside the mother's womb react to pressure, prick, electric and other irritations, by movements. The answer of the question whether the unborn child possesses perceptions of the senses will thus depend rather upon the determination of whether the unborn child's organs of sense are subjected to irritating actions in the mother's womb. Without doubt, what is commonly called the "state of health", or in scientific language the "*general sensations*", depends upon the life process in the child.

The *sense of touch* is no doubt excited through contact with the coat of the womb and by external pressure through the womb. The *sense of taste* through the amniotic liquor, which the child, while floating in it, swallows, and which tastes of different matters, even of urine. For the sense of *temperature, smelling, hearing and sight* however, Preyer does not believe irritations can be imagined to exist. Further he denies for the *sense of hearing* the real reception and further transmission of sound-waves, because the ear-drum is filled with a tough substance. This may be true, for new-born children, in consequence of this, do not yet hear immediately after birth. But if he also excludes the so-called head transmission, I am not quite disposed to follow him for the present as the few insignificant experiments which he opposes

to this, in the born child, do not suffice by far to exclude this conjecture. As to the *sense of sight*, this question will only be settled finally, when it will be established whether or not feeble rays of light penetrate through the coat of the belly and the womb. Because, through other parts of the body, even thick ones, some rays of light penetrate. Try for instance to hold your hand, in a perfectly dark room, against a light which is closed in on the sides so that it can shine only through the hand. In general, I should express my opinion about the activity of senses in the unborn child, in presuming that development of the organs of sense seems to proceed in the maternal womb under the influence of certain exercise and that the child is finally born with those small capacities which have developed themselves by this exercise. After the birth, they continue their development rapidly among the manifold excitations of the outer world.

Although I presume this, it seems to me anyway to be right and worthy of notice, even if *Preyer* through a great many observations and experiments, persuaded himself that the *capacity of feeling in the child appears later than the capacity of movement*. At the beginning there is the will.

As to the feeling of *pleasure* and *dislike*, what has been said of movement and of the perception of the senses may be said of these too: the capacity for this must exist. For, according to *Preyer*, we cannot deny the unborn the faculty to discern pleasure and antipathy, and it is not improbable that one might associate with every reflex movement of defence a dark feeling of dissatisfaction as a constant companion. But according to *Preyer* it is doubtful if the child may have, even in the last two months, any cause for feeling real dislike. Here too I should credit more development than *Preyer* does.

The New-born

The child enters into the hour of its birth with a bodily and mental organism which already possesses all the dispositions for its future functions as its heredity. In that hour the dispositions of the new-born begin to function, so far as they have not already done so in the mother's womb. Centuries ago this was already known in a superficial and incomplete way. But in general the first appearance of the mental phenomena was placed much too late. The observations and experiments of *Kussmaul* and *Preyer* have brought us our first more exact knowledge. They excited new-born children, when they could not be observed under natural con-

ditions, in various ways, and concluded from the following reflex actions, i. e. mimical movements, that the children had the sense of perception. Thy tested the sensations of the skin by contact with their fingers, pinching, beating (which however must be understood as gentle), needle-pricks (which Preyer however expressly denotes as moderate) and tickled the lips and tongue with a glass-stick or the edge of a feather (in order to stimulate the movements of sucking), the mucous membrane of the nose by vapours of acetic acid or ammonia. The taste, by cane-sugar, quinine, cooking-salt tartaric acid, diluted acetic acid. The hearing, through tapping, whistling, screaming, ticking of a pocket-watch, a bell or a tuning-fork. The sight, by holding the child against the window or bringing into its visual circle a burning candle and shining objects.

These experiments, especially those of the more renowned *Preyer*, were much taken amiss by compassionate mothers. These means of excitement are however of so normal and innocent a kind that they could never have any unfavourable influence, so that I cannot share this indignation. It does not seem to me to repose on actual knowledge of their actions but on misunderstandings and exaggerated conceptions on hearsay. Think of the terrible natural pressure on the child when it is born compared to these excitations! And reflect, that you have before you a child, a creature whose self-consciousness is not yet awakened! Certainly ignorant mothers make in all innocence much more dangerous experiments with their children every day than these scholars did on one occasion in pursuance of authorized scientific interests. The conclusions unfortunately are still incomplete and vary among the different scholars. They diverge in part on their ideas of the young child. But this comes precisely from the fact that they have respected the infant and have not made any experiments with it which might really have done it harm. It is however to be hoped, that we may attain more certain information in future on many of these questions — by simple means.

The expressions of life manifest themselves in the new-born through various *appearances of movement*, to wit: mien, gestures, expressions of voice. Several methods of movements may be distinguished according to their causes, First very queer ones, which seem to come purely out of the inner organism, without any visible excitation from outside. They are the so-called *impulsive movements*, which we have already become acquainted with in the unborn child. Here, with the born one, they may be observed first of all in the aimless swaying to and fro of its little arms and legs, with which the child often enough

hurts itself, especially its eyes. In sleep also you may see it turning round and round to no purpose at all. Similarly to this, its vocal exertions in the first year are often to be considered as outbursts of pent-up impulses.

The contrast to the impulsive movements are the movements of the child which come as an *immediate* answer to an external excitation. They have had for a long time the scientific name of *reflex movements* (from the Latin reflexus, leaning back; throwing backwards). They are for the present the most important heredity of the child. With two of them, which have become very famous, the child begins its first entrance into life: With the *first breathing* and the *first cry*. The first cry, in particular, has its history. Since antiquity it has been, especially by pious minds, considered a cry of horror at the entrance into the terrestrial valley of tears. The great *Kant* still says: "The cries which a new born child utters, have not the sound of lamentation but of indignation and of irritation." Nothing of all this, advanced in earnest or in jest, is scientifically true. Modern science sees in it simply a prosaic reflex, as *Preyer* explains the reflex of breathing "But such explanations", says he, "are frustrated by the fact that new-born children who lack the brain, also cry, and many healthy ones in entering the world do not cry but *sneeze*. In both cases a peripherious (outer) excitation, perhaps the sudden cooling and the friction of the back, must cause the expiratory (breathing) reflex. According to *Scupin* the cry is only the answer to a tap on the lower part of the back. Another reflex, which the child employs as it floats in the amniotic liquor before its birth as well as immediately after birth in absorbing food, is *swallowing*. It is very important for an understanding of the child that those around it realize that it also brings into the world our *movements of expression* as reflexes.

In all the organs of sense one may prove perceptions of senses immediately or soon after birth. But only the so-called low senses, sense of touch, taste and smell but especially taste, seem to be developed almost to those of adults, and are only more refined with use; the higher ones, hearing and sight are at first very incomplete. The *sense of touch* is in general less sensitive than in a grown-up person. But new-born children answer sharp contacts by a movement of *pain*. The expression on the face of half-born children is sometimes, that of the greatest dislike, and they cry. Portions of the skin are already as sensitive as in grown-up people, or even more sensitive. Thus *Preyer's* boy reacted within the first 24 hours to the lightest contacts with his face. The lips among other parts

were found very sensitive, the lightest touch on them provoking as a reaction the movements of sucking. The eyelids were also, closing immediately when even only one lash was touched.

There is also a sensitiveness to *temperature*. The child, which from the mother's womb is used to the high temperature of the mother's body, shows distinct signs of pleasure in very warm baths, while it shows strong dislike for cold. The crying of the child after birth may be partly an expression of dislike for being transplanted from a space of the high temperature of the mother's body into one of the sensibly cooler temperature of a room.

General sensations, especially hunger and thirst, are very soon announced by the new-born. *Taste* is excellently developed, perhaps best of all the senses. The older opinion, that new-born children take everything that is given them, without distinction, is erroneous. It is true only for liquids of slight taste. According to the experiments of *Kussmaul* and *Preyer* the new-born answer to sweet, salty, sour and bitter stuffs by mimic reflex movements of the same kind as adults, to wit: to sweet things with sucking, the expression of pleasure; to salty, sour and bitter ones with grimaces, the expression of dislike. The sense of *smell* seems, on the other hand to be much more obtuse. But the child experiences sensations of smell from its first days, and not only after four weeks or in the beginning of the second month. That children very soon smell the spoon filled with milk or porridge in dark rooms, is, according to *Preyer*, a certainty. But whether the infant recognises his sleeping mother by her smell, as is the case with animals, must, according to him, be left an open question. He also thinks it improbable, after his own observations in the lying-in hospital, that the sense of smell aids the infant in seeking the nipple when it has been brought near it but not helped, as it does animals. The experiments made by *Canestrini* with strong agreeable and disagreeable odors show that the sense of smell shows the least development of all.

Among the higher senses the new-born does not have, in the beginning, that of *hearing*. All children are deaf immediately after birth. This has, on one hand, quite an external reason, to wit: that according to the recent theory of a number of scientists the tympanum of the middle ear, in which as is known lie the little bones of hearing (hammer, anvil and stirrup) is filled with a "mucus", which is variously described: as watery, as tough, gelatine-like, as transparent or as dyed yellowish or reddish. (H. Wendt.) The tympanum is probably only gradually emptied of this mucus by swallowing and breathing — a part in several hours, the rest perhaps in several

days — and is filled with air, which is a first condition for hearing. The deafness of the new-born child, however, has also internal reasons. The nearly horizontal position of the tympanum must, according to *Vierordt*, make the conduct of sound somewhat more difficult. But not least, everything indicates a limited sensibility of the hearing-nerve itself. For the fact that even big children still enjoy making noises which to grown-up people are disagreeable, denotes that they themselves are less sensitive. The first sound heard is announced by the child with a start. The new-born does not turn yet to the source of sound.

On the contrary the child shows that it is sensitive to the *sense of sight* immediately after birth: the pupil plays, i. e. it contracts and expands. However, the sensitiveness to light of *Preyer's* child, which was held, five minutes after its birth, against the window at twilight, was not great. My child, *Freia*, born in the evening, and taken after her birth into a dark room to sleep, repeatedly started in her sleep when an electric pocket-lamp was flashed on. Probably the new-born child is not able to perceive more than light and darkness, and not colour, and therefore can receive no pictures. For the perceiving of these is a complex perception which the child only learns by degrees. It therefore sees for the moment neither mother, nor father, nor food, nor anything else. The movements of its eyes continue for weeks independently of each other, so that it may actually squint. It is not capable of focusing any object or to execute with its eye the movements necessary for looking.

The physiologico-psychological observation of an approximate succession in the appearance of the functions of the organs of sense (touch, taste, smell, sight, hearing) receives an actual foundation through the anatomical examinations of *Flechsig*. It seems that the transfer of sensations between the organs of sense and the main brain progresses in about the same order. First the transfer of the sense of touch penetrates to the coat of the main brain, approximately at the same time that of smell, much later that of sight, and last that of hearing.

We have seen, step by step, above, that the sensations of new-born children are directly answered by the expression of *like* or *dislike*; they are thus immediately accompanied by a *sentiment*, as in grown-up persons. By sentiments we understand the impressions of the outer world, favourable ones call forth the sentiment of pleasure, unfavourable ones the sentiment of dislike. Hunger, thirst and appeasement of hunger, pain, and to a lesser degree, fatigue, are the most important sensations which the new-born expresses by sentiments. In

general, in the first half-year of life the sensations of dislike are more frequent than later on. This period is, as Preyer says, one of the least agreeable of life.

The Suckling

Man distinguishes himself from the beast chiefly through his upright gait, reason, speech and self-consciousness. The people have therefore observed quite naturally in the development of the child the steps from the animal to the human being and have given corresponding names to them. We speak of a *suckling child* or *child in swaddling clothes*, a *carry-child*, a *creeping*, *standing* and *running child*, a *speaking child*, a *big* or *intelligent child*. Science in contradistinction to all other, often artificial, attempts at nomenclature, can do no better than to take up these good distinctions from the mouths of the people and try only to gain by its own methods a deeper comprehension of them. It thereby only takes the natural path of investigation, which has always acquainted itself with the acquisitions of popular usage. For its own profit it should start from this point of view much oftener.

The people speak of a *suckling*, meaning the baby in the first months of life, because the mother suckles her child like the animal its young. This characteristic had caught the popular fancy. This name is much more popular than the other one which relates to the envelope in to which the child is put directly after its birth and from which the name *child in swaddling-clothes* is derived. During this period of life the foundations are laid for the whole mental development of man. The capacities for *movement* and *perception of the senses* brought into the world at birth soon continue to function and develop far more complicated duties. In consequence of this other phenomena present themselves. The impressions which are taken in through the senses are gradually retained and become part of memory. This faculty is called *memory*. Impressions of senses, which are noted together, *perhaps* also those that resemble each other, are combined in the mind. This faculty is called *association* (from the new Latin *associatio* forming society). The impressions of the senses retained in the mind can be recalled into consciousness. This faculty is called *recollection*. In becoming capable of more complex functions, the child gradually learns to distinguish complex impressions of sense, *intellect*, and to form correlations among those distinguished, *imagination* (fancy). Intellect and imagination are the two poles of *thinking*. From the results of the ac-

tivity of the mind (contemplation on one hand and thinking on the other), the first, though limited, *circle of conception* is constructed. Its central conceptions concern, for the present, *food and play*. Everything works finally for the forming of *self-consciousness* and therewith *personality*. We shall now consider these single faculties more closely.

The *movements* perfect themselves through impulsive and reflex movements, with which we also must consider the movements of *impulse* or *instinct*, in *considered* or purposeful *movements*.

The *suckling*, which has been brought into the world a complete organism, does not only impress the layman, but also — naturally from other motives — the scientific investigator. We have as yet to treat only with movements which are instigated either through inner causes without outer excitements, the impulsive ones, or such which are the *immediate* answer to an outer excitement, the *reflex movements*.

In sucking however we observe a movement which does not quite resemble any of these. It is not an impulsive one, as it may be produced through a touch of the lips, thus through an outer excitement. It cannot be a reflex movement, because it does not respond to every touch of the lips, but only when the suckling is hungry. It does not appear when the suckling is satiated. We have therefore before us one of those expedient actions, which without any action of the intellect and consciousness of its object are done purely from a natural impulse. They have therefore been called *impulses* or *natural impulses*, also *instincts* from the Latin *instinctus* (impulse). They outweigh in the child for a long time the voluntary acts and even grown-up people are dominated by them more than they know. The suckling has many of these impulses. It is true that according to *Preyer* amongst all the movements of the suckling there is none so absolute as the one which gives him his name. It is the expression of the most primitive impulse in the child, the *impulse for nourishment*. The others, the *holding of the head upright*, *sitting*, *standing*, *seizing*, all expressions of the *impulse of motion*, and more so the so-called higher ones, which repose on spiritual activity, as the impulse to do everything oneself, the *impulse of activity*, or to investigate everything, the *impulse of experimenting*, or to imitate everything, the *impulse of imitation*, or to keep company with equals, the *impulse of sociableness*, may only be observed gradually, especially in their perfection. We shall get acquainted with most of them in the course of their development.

The *seizing* impulse however we shall examine more closely

immediately, as it is one from which we can learn much concerning the development of movements. One may observe that the the suckling in its first hours clasps a stretched out finger or any other object with his little hands. This clasping takes place at the moment without consciousness of its purpose, only from a hereditary impulse of nature. But later on, after the manifestation of consciousness it is done consciously. Between the tendered finger (or whatever other object it may be) as an outer excitement and the clasping of this object with the little hands, there operate one or more conscious conceptions called the *motive*. This clasping with the little hand is called a *wanted* or *arbitrary* or *considered* movement. It is not easy to say when wanted movements appear for the first time. Their pre-supposition is certainly necessary for the supposition of the formation of self-consciousness, which again depends on many pre-suppositions. According to *Preyer* the first independently considered movements take place only at the end of the first quarter year. The child *will* then have its plaything for instance, and may be very angry if its will is not fulfilled. Freia had at first fidgeted aimlessly with her little arms; from the 8th week we could observe a fidgeting with one arm in the direction of persons or shining objects, and from the 10th week a clasping of objects and seeking for things to seize. But many things still separate these first beginnings from the planned acting of the mature grown-up person.

We have as yet considered and denominated the movements only according to the causes which motivate them. Now we consider them according to what they express of the events of the mind. We have seen a new-born child excited by various means and have concluded from the resulting reflex or mimical movements which ensued (which we have already described) that they are of the same kind as adults manifest under similar excitation. The effect of different excitations is answered or expressed in many varied sorts of movements. Such movements are therefore called *movements of expression*. They are in general a part of the hereditary equipment brought into the world by the child, as impulsive, reflex and instinctive movements. The new-born baby, for instance, expresses pain with quite the same mien as a grown-up person or an old man. But it perfects the talent and may later on employ it arbitrarily. The most important movements of expression are the movements of the facial muscles, the *mimic* (from the Greek mimikos, in the manner of actors) of the limbs, *gestures*; and of the mouth and larynx, the so-called instruments of articulation, *speech*. The *mimic*, including *physiognomics* (from the Greek physiognomikos, apt to judge of the nature of a man by his features)

which is connected with it or founded on it has captivated the mind of man ever since antiquity. But "Physiognomics" attributed to *Aristoteles*, as well as all the other essays on the same subject which appeared later, remained adventurous speculations; and serious scientific circles, as a result, doubted the possibility of explaining the mimic and physiognomic. *Piderit* and *Darwin* were the first to construct the foundations for its comprehension in an unobjectionable, scientific manner. Lately we have begone to study the child with a view to understanding it. *Uffenheimer* has even observed in one form of tetanus in a child, which generally does not offer any obvious phenomena, such peculiar features, the so-called "tetanus face", that the disease itself could be recognised by it. Let us hope that the mimic will receive more consideration from the physician in the diagnoses of children's diseases.

Now let us return to the description of the movements of expression themselves. *Piderit*, who confined his observations to the sphere of the mimic, and not the entire sphere of movements of expression, reduces its multiform and complicated manifestation to a very simple and natural maxim: the movements of the facial muscles provoked by agreeable conceptions are such as might facilitate and reinforce the reception of agreeable impressions of the senses (raising the eye-brows, wrinkling the skin of the forehead, and opening the mouth wide); the movements of the facial muscles caused by disagreeable impressions are such as might hinder or prevent the reception of impressions (frowning, eye-brows and skin of the forehead pulled down, and the mouth closed tight). We may therefore designate the first simply as movements of acceptance and the latter as movements of defence. *Darwin* agrees with *Piderit* in details but not in principle. He investigated the whole territory of movements of expression and derives the movements of expression chiefly from another principle. Certain actions are of use under certain conditions of mind; as soon as this condition of mind is brought about, there is, in consequence of the force of *habit*, and association, an inclination to execute the same movements. Further *Darwin* also points out, that with the exception of our so-called conventional expressions, to wit, the language of gesture of the savages or the deaf and dumb, our movements of expression are generally the same as those which our human and animal ancestors have universally possessed. Thus in the greatest anger we display our teeth, although even under strongest excitement we do not ordinarily bite. This movement can be explained in all probability as a remnant from an animal antiquity, in which showing our teeth meant a threat to bite. *Darwin*

therefore assumes hereditary transmission of the movements of expression. According to him they are, quite generally speaking, nothing but *hereditary habits*. It is true that the views of *Darwin* were not so generally accepted as those of *Piderit*, notwithstanding all acknowledgement of their merits. For *Darwin*, who has proved the general resemblance of the movements of expression in the different races of men and even animals, has withal not explained *why* the movements of expression in all living creatures are so homogeneous. But this explanation lies in *Piderit's* theory. Both scholars emphasize different sides of the same problem and complete each other.

Having considered the general theories of explanation of the movements of expression, we shall pass over to consider some especially important individual ones. First, those which are *hereditary*. The most important are those around the *eyes* and the *mouth*. To these is added a very remarkable one: the filling with blood of the minute *blood-vessels* of the skin, the

blush. Mimicry is also generally accompanied by gestures of the hands or feet. In other words: expression is not the function of one part only, but of the whole body.

For example we consider the movements of the *eyes*! Agreeable impressions as well as agreeable conceptions, are accompanied by lifting of the eyelids, as if — as we have already noted — to facilitate and encourage their reception. The wide open eye is the mimical expression of *attention*, when the condition is a lasting one; that of *surprise*, when it occurs



Surprise.
Open eyes. Open (three-cornered) mouth.
Text p. 21, 25.

suddenly (see illustration). On the reception of disagreeable impressions as well as on their conceptions, the eye-brows are pulled downwards and the skin of the forehead drawn into vertical wrinkles, to prepare for the closing of the eyes, as if to hinder or prevent the reception of impressions. The pinched eye is the mimical expression of *ill-humour* (ill.p. 23). It occurs in pain, anger and strained meditation.

Now to the movements of the mouth! Agreeable impressions of taste (and also conceptions) are according to *Piderit*,



Obstinacy of the Small Child.

Hermann Kaulbach. "The Stubborn Thing".

marked by closed lips and cheeks firmly held against the jaws to compress the agreeable taste on the tongue. It seems to me though, that the mouth simply arranges itself to suck in the agreeably tasting thing: this is the sucking movement. This form of the mouth is the mimical expression of the *sweet*, the "sweet mouth" in colloquial language (ill. p. 24). For disagreeable impressions of taste and also conceptions, according to *Piderit* the mouth is quickly opened, both jaws are pulled apart, in order to hold the tongue as far as possible from the palate, i. e. to prevent a possible friction on the surface of the tongue and a repetition of the disagreeable sensation of taste. It seems to me however,

that the mouth simply sets itself to the pushing out of the disagreeably tasting object; assumes the position for spitting. This form of the mouth, the grimace, is the mimical expression of the *sour* and *bitter* (illustration page 24).

With very violent bodily exertions the teeth are set and the lips pressed together. The lower lip seems to be lifted in the middle and at the same time two folds or hollows appear downwards and outwards (hang mouth). The same mien as for very violent bodily exertions appears also with very violent mental ones, especially in a mental strnggle. In the pinched mouth and the raised lower lip thus lies the expression of *sourness of temper, obstinacy, defiance*; "pouting" in popular language. *Hermann Kaulbach* has with amiable humour sketched such a fellow (ill. page 22). With pinched mouth, dark look, his little arms thrown on his back so that he will not be touched, the boy of about two years has retired into a corner. But when nothing else avails, the bahlamb will help! Nana, the little nurse knows that. Interest is already gained, perhaps the heart will follow too; a smile and a grasp for the object with some over-flowing tears in his eyes, and all pain is forgotten in the flashing change of moods typical of children. For the rest observe the fine contrast between the wilful child and the angelic patience of the nurse-maid, a patience which is the possession of women, alone. Opposite the picture of the little boy, is the photograph of an older one (ill. p. 23). The expression of the little child is already the same as the bigger one's.



Obstinacy of the Older Child.

Hanging mouth, "Pouting". The boy was being posed for his photograph, but was restless. Exhorted, he got excited and answered: "I don't want to!" That moment his picture was taken. Text p. 22, 23.

There are more hereditary expressions. To listen attentively, to perceive an indistinct noise, the child opens his mouth in order to take in the impressions of sound not only with



The Sweet: Sugar.



The Sour: Lemon.



The Bitter: Aloe.

Expressions of children in response to conceptions of taste.

his ears, but also through his mouth. The open mouth, of triangular aspect, and wide open eyes are the mimical expression of the highest degree of *attention* and of *astonishment* (ill. p. 21). In *laughing* as well as in *crying* the mouth is opened and drawn out broadly, so that with the irregular and violent movements of breathing the air may stream in and out undisturbed. The sounds of laughing and sobbing are produced by the violent intake and exhalation of air which cause vibration of the vocal cords of the larynx. In addition, both are partly connected with the remaining movements of expression.

In *laughter* the teeth become visible under the broadly drawn upper lip, and in each corner of the mouth there appears a deep wrinkle, the mouth-wrinkle. While the flesh of the cheeks is drawn upward, on the lower edge of the sockets of the eyes a prominent wrinkle forms and the eyes appear pinched together. The suckling utters sounds like "hahaha", the elder child like "hehehe". The first slight indication of laughter shows itself only in a tension of the muscles of the mouth; incomplete laughter in the *smile*. From the bulk of the observations of *Preyer* on smiles and laughter of sucklings it appears that both are original movements of expression distinct in the first month, which without exception express sensations of pleasure from the beginning. One boy, three days old, distorted his mouth to a broad smile on being tickled on the cheek and the nose, but laughed with opened mouth for the first time only on the 26th day. *Freia's* mouth had directly after her birth and on later days a fugitive smile, which however might be considered as a casual movement of the muscles without a mental cause. From the 11th day on I thought that I could observe smiles of a mental origin; on the 28th day accompanied by the sound "ah" after 2 weeks formation of the wrinkle of the under eye-lid and protruding of the point of the tongue; after 5 months "neighing". The photographs reproduced contrast the laughing of a suckling and of an older girl: the same child, at eight months and then at six years (ill. p. 26, 27). The suckling of eight months uses exactly the same features in laughing as a child of six years. But what a difference, though, in the mental expression in the two pictures! This depends in large part on the gesture and bearing of the body which are much more developed in the older child.

In *crying* the eyes are pinched together as for bad humour; the mouth shows the expression of bitterness and the nostrils are drawn downwards as if the sense of smell were affected. The drawn-down nostrils are a very important sign of crying

according to *Piderit*. For they alone distinguish crying from hearty laughter. The tear glands secrete a liquid. The issuing stream of air gives a characteristic sound to the vocal cords. "New-born and quite young sucklings", says *Preyer*, "as is well known, do not cry. They do not secrete tears as much as they may scream. Later on, children scream and cry at the same time and may scream without crying, but only much later still are they able to cry without screaming." The child cries very much and violently; more, and more violently, than the grown-up person. More uncontrollably than for the adult agreeable impressions make them laugh, disagreeable ones cry.



Suckling Laughing.

As the crying of the suckling is also combined with screams, it is also called *scream-crying* (ill. p. 32). *Darwin* describes such attacks: "While they scream in this manner, the eyes are closed tight, so that the neighbouring skin is wrinkled and the forehead pulled together in folds. The mouth is wide open and the lips are drawn back in a peculiar fashion, which gives the mouth a quadrangular form. The gums or the teeth are thereby more or less exposed." In great passion the breath is drawn in nearly convulsively and pushed out in long breaths. In consequence of this exertion the blood is forced into the blood-vessels of the skin and the face appears highly flushed. According to *Piderit*, though, the muscle which draws down the nostrils of crying new-born babes should not be strained. With them therefore the crying mouth should be very similar to the laughing one. The first tears are reported at very

different times but in general not before the second to third week. The crying of the older child becomes much more moderate, but also much more expressive, the sounds are only a sobbing. Girls cry more than boys. The grown-up person after all, and especially man, looks upon it as a weakness.

He masters himself and cries only in rare cases. If anybody is looked at for a reason which is not agreeable to him, for instance when his appearance excites attention, or when he is called to account for something; or much more if he is surprised in undress, he turns his body and face aside and casts down his eyes in order not to be obliged to look into the other one's, and his mouth forms a smile, "the *bashful smile*". He gets red in the face, because in consequence of the emotion the muscular coats of the small arteries which fill the minute vessels of the skin with blood, relax, and the blood now



Laughter.

(Older child.) Text p. 25.

enters unprevented into them causing the *blush*, the *blush of shame*. The hands seek occupation in playing with the fingers or, in undress, in covering the exposed parts, the *reflexion of shame*. There is a tendency to bite the nails in these circumstances, for which reason often the little finger is pressed against the mouth, the whole bearing becomes uncertain and loses its tonic power. The whole of these appearances is the mimical expression of *embarrassment* and *shame*. Children become bashful only at a late period, but then more

easily than boys. Especially with children who associate with few people and therefore are timid, the mere direction to them of the attention of a stranger suffices to embarrass them, and they readily hide behind their mother's skirt, an exact parallel to the adult's turning away his face and casting down his eyes. Our picture (ill. p. 29) shows the same girl whom we saw laughing above, become bashful when facing the camera. The bowing of the head, casting down of the eyes, smiling,

playing with her fingers and the slack deportment are perfectly characteristic.

All expressional movements which we as yet have considered,

repose on a *hereditary disposition*, i. e.

the child brings them with it by nature, without being obliged to learn them, although they may be perfected by exercise. Now we will finally add

some which are creations of culture and



Scream-Crying.

(Small child.) Text p. 26.

must therefore be acquired by the child *through learning them*. They are gestures which originally were made in some considered sense, but have long been polished and have become symbolical. So for instance *affirmation* is expressed by *nodding of the head*, *negation* by *shaking the head*. The explanation of their origin is seen by *Darwin* directly in observations on children. "With little children" says he, "the first act of negation consists in refusing the food, and I have repeatedly noted in my own children, that they expressed this through moving their head sideways from the breast or from anything

that was offered them in a spoon. In accepting food and taking it into their mouth, they bend their head forward". Nodding and shaking of the head should thus be original movements of acceptance and negation. The *conscious* use of them according to *Preyer* appears rather late, only towards the beginning of the 2d year.

Affection and love is expressed with us, but not with 'all nations, through the *kiss*, a necessary evil. This strange fellow has obstinately resisted scientific explanation. Even *Darwin*, who in such explanations is generally very shrewd and clever, here leaves you in the lurch. The expression in the kiss being a sucking movement (the mouth is pressed on and air is sucked in) and its having its centre in the intercourse of both sexes and of parents with their children, it ap-

ppears to me to be an image of the childish sucking on the mother's breast, which has become symbolical. It is thus the sucking movement of children at the mother's breast during nursing which is continued after weaning, as a symbol and sign of most fervent



Bashfulness.

She is to have her photograph taken.
Text p. 28.

affection. This also explains the lover's phrase: "I could eat you!"

We direct the attention of others to a distant object by *pointing*. It has probably derived from a habitual foreshortening of the movement of seizing and may up to this day be formed by the children themselves, or partly be acquired in learning.

When we wish to have an object removed from our view, we make the *rejecting movement*. It seems to have been an off-shoot originally from the movement of pushing away. We can observe the pushing aside of objects or even of persons, very distinctly still, at least among children.

A wish is expressed by the folding or clapping of hands, the "please, please!". It may have been originally the sign of defencelessness, of submission, which always contains a prayer, namely the prayer for mercy. In the child *Prayer* reckons this movement as the one which is earliest acquired by training.

As a greeting we are in the habit of *bowing* or *curtseying*. It is the remnant of the original throwing oneself on the ground, as is still done among oriental or savage nations. These gestures too are generally taught to the child as early as the "Please, please".

The *senses* perfect themselves from the reception of simple, shapeless sensations to the *perception* or *contemplation* of *pictures*, which get impressed in our minds as *conceptions*. The grown-up person, as is well known, does not perceive in the world only simple, shapeless sensations, as the new-born probably does in the first days. Thus he does not separate his sensations of milk for the sense of touch a liquid mass, for the sense of taste a taste, for the sense of smell a smell, the sense of sight colour etc., but he reduces the manifoldness of them to *unity*; the several sensations brought about by milk therefore really as the collective picture milk. The arrangement under which the simple sensations combine into a unity, is a complex one. They can rest side by side, as the liquid, the colour, the taste, the smell of the milk. This arrangement is a *special one*. Or they can occur successively in time, as for instance, several slaps on the hand. The successive arrangement is the *temporal*. Or they can be cause and effect, as for instance slap and pain, wound and pain. This is the *causal*, the unity in the arrangement makes it appear to us as a *conception*. These occurrences are so common for the layman that he thinks it ridiculous to give a thought to them. But for science they are one of the most difficult problems, viz. the problem of *perception* or *view*.

Probably only a few sensations penetrate in the first days through the senses into the mind of the child. Perceptions in the true sense of the word are not recorded. But some things in the demeanour of the suckling point to their occurrence after a few days and to an increasing degree in a few weeks: The child learns to recognize association of sensations (special), the succession, and the dependance of sensations, and in consequence also the pictures of the objects which provoke those sensations. We may with good reason represent to ourselves the learning of perceptions in this manner: The child at its birth sees perhaps nothing but a chaos of similar, slightly distinguished sensations, some light and dark spots, which gradually become coloured and take form: food (milk), father and mother. These move in a space, the room; in this stand the cradle, playthings, a table, a press, chairs etc. Learning of perceptions takes years and, in a certain sense even its whole life. For even in our ripest days we must ever anew learn to perceive strange impressions.

Among the senses the original teacher of perception is the sense of touch, while the child with its little hands snatches at everything, pursues everything with its eyes and its body, and finally learns to walk (which all causes sensations of touch within the body). The so-called sensations of organs causes it, so to speak, to feel its way in the world, with its associations and causes and effects. The eye supports the sense of touch especially in the contemplation of space. But it is not absolutely necessary, for blind-born are also able to form the world for themselves by the sense of touch alone. The ear may let the child judge at most the direction and distance of a source of sound, and this only indirectly. It is more a sense for succession and supports the sense of touch, therefore, mostly in conserving a view of time. The scientific theories are in reality naturally much more complicated than I can describe them here. But I can only indicate them here and not follow them out, for the laity could scarcely follow me through the wild bushes of the differences of opinion. It must however yet be said, that the activity of senses is the really predominant function in the mental life of the first years of the child. It gives its mental functions their most characteristic impression: The child is a creature of senses.

After this review of the general development of the perception of senses we will add only some short remarks on the perfection of the particular senses. On excitation of the skin, the new-born does not for the present do anything that might lead to the conclusion that it perceives the excitement in special parts of the body. It does not transfer the sen-

sation of touch to a special place. The little arms and legs still move without aim. When the child is some weeks old, however, after seizing and touching, it contemplates its own fingers perseveringly and attentively (*Preyer*). The perception of the sense of touch in the fingers has taken place. *Preyer* has observed grasping, after the end of the first three months, which indicates pursuit of purpose. Through the perception of the sensations of touch in its own parts of the body, the child gradually learns to distinguish them, the most important first element for the formation of self-consciousness. *Taste* according to *Sigismund and Preyer* seems to furnish first among the senses distinct perceptions which are connected immediately to memory. A peculiarity of childhood from the suckling to the older child is the likes and dislikes for certain food (idiosyncrasy, from the Greek idiosynkrasia, peculiar mixture, because the ancients thought the peculiar mixture of his own blood caused unusual desires). This is, in part an individual, and in part a typical taste. The dislike of children for medicines is well-known. But one of the best known affections is the preference for sweet things. It is probably deeply founded in the activities of life. For the agreeable taste cannot be its reason alone, as it pretty much loses itself in grown-up people. But as sugar in its quality of carbonic hydrate is a very important nurture for growth, we should consider the preference for the sweet as the instinctive requirement of the child for carbonic hydrates. Just as the dog by instinct has a special preference for meat. Thus we also understand the secret nibbling of the child, which in general is harmless, but may grow into an actual fault of character.

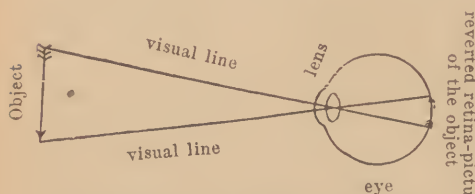
Smell on the contrary seems to develop distinct, conscious perceptions strikingly late. In the 15th month freshly ground coffee and eau de Cologne, which he himself used to like the smell of very much in his third year, made no impression at all on *Preyer's* boys. In the 17th month the incapacity of separating smell and taste showed itself in an unequivocal manner. For every time when *Preyer* wished to let the child smell anything, holding for instance a flower to his nose, without touching his lips, the child opened its mouth and even put the sweet smelling flower into it. Even grown-up persons sometimes are in the habit of confounding impressions of smell and taste, and saying "taste" when it is the organ of smell which perceives it.

The *ear* perceives more subtle differences towards the end of the 2nd and the beginning of the 3d month, in which time *Preyer* has observed that the suckling pays attention to softly

sung lullabies or playing on the piano, or even answers by vivacious gestures and laughter. The moment in which the suckling begins to turn its head towards a source of sound is an important one. It was indicated formerly in the second quarter, thus by *Nierordt* in the 4th month. *Preyer* however has observed it in the 3d month; the author on *Freia* immediately after the 3d month.

Sight receives distinct perceptions surely in the second quarter of a year. This is pointed out by the fixing of objects, the following of them with the eye, loud expressions for joy and fear and others. "It however takes a long time" says *Preyer*, "before the child may interpret the coloured, the light and dark, the large and small, disappearing and reappearing mosaic pictures and understand and realize them". The first *sensations of colour*, especially are difficult to prove and have called forth various efforts of researches and differences of opinion, the quarrel of *perception of colours*. The first distinguishing and the first naming of the colours must be distinguished in principle. The new-born probably does not yet perceive any colour, only light and darkness, the sensation of them begins perhaps in the first weeks. But it is difficult to say when the distinction of colours becomes fully conscious. We may however state with certainty that this epoch lies before the learning of speech. Unfortunately the most important experiments can as yet only be made after the child has learned how to speak. *Preyer* began them. He wanted to examine the development of the sense of colour in letting the child, towards the end of its 2d year, name the colours or show them on his naming them. He found that of the four principal colours, yellow, especially, but also red, were named much sooner than green and blue. Green and blue are also called, in painting, the cold colours. But as this method presumes the learning of the words for the colours, *Binet* executed his attempts in letting the colours be found after he showed them. He found that red and blue are sooner recognized than green and yellow. But as this method still presumes a general understanding of speech and therefore requires a more developed child, *Baldwin* presents to his child only the colours for a voluntary movement of grasping. His child mostly grasped blue and red, less frequently green. The yellow colour unfortunately was lacking during his attempts. But in these attempts of *Baldwin* it is not said that the child grasped the colour as a colour, it may also have grasped it for any of a number of reasons. Therefore his attempts are the least free from objection. We do not therefore yet possess an unobjectionable method for examining the sense of colour in the child.

Preyer believes that the right principle has been found by Mrs. *E. Dehio* in Dorpat. As the connection of the sense of colour and the naming of colours are, according to experience, so difficult with the child, because, for it, the names of colours are an empty sound in which it takes no interest, she replaces them for it by denominations of its own experience; calls the green little colour-cards "hay-stack", the blue ones "sea-water" the yellow ones placed in two's "bathing-bridge"; builds a bathing-cabin of the brown ones; the black is "bench"; a red



Formation of the picture in the eye
and reversion of the picture on the retina.

one represents the child; a purple one another, and both are lead across the bathing-path into the bathing-cabin and jump into the sea-water. Through this she excited the child's interest, which rapidly learned to assort

the colour-cards. The result was that the eye of the child is much earlier able to perceive the difference of colours than its natural interest caused it to learn their names. This new expedient is doubtless quite as simple as ingenious. Future repetitions must show if it will stand the test.

A curious apparition in the coming about of sight is the fact that, while the lens in the eye throws the picture of the objects *revertedly on the retina* (ill. above), we nevertheless *see them upright*. It has been attempted to explain this by saying that the child, which in the beginning really saw the objects reversely, acquired by experience, especially through touch, the knowledge of the upright standing of them. This view even seems to receive support from certain observations, for instance that the child likes to look at books upside down, to draw pictures with feet in the air, to write mirror-writing etc. But this is not exact. For, if it were so, it should be confirmed by the absence of upright seeing in cases of disease: an idiot who learns nothing, an insane man who forgets everything, an unfortunate person who was born without arms and legs, would all see objects upside down. But they see them upright, like normal people. The reverting of the picture in the retina can therefore only be an occurrence which takes place immediately with the reception of the picture in the mind itself. Probably for the mind it is indifferent how the picture of an object is thrown on the retina: It simply sees the picture in the direction of the visual lines (these are

the imagined lines which start from the picture and are reverted by the lens) in the outer world, i. e. as it stands outside. The *spatial sight* of the eye is an effect of its movements. From the movement of the muscles of the eye the mind deduces extent in space. *Rachlmann* distinguishes in this development two important degrees. After the new-born has been dully staring in one direction and even moving both eyes independently of one another, in other words, squinted, it begins from about the fifth week (the conclusions of the observers as to the time differ widely, because the observation is liable to be deceptive) to direct both eyes in the same manner on an object which excites its attention, to *fix* it. From the 5th month it begins to *pursue* it. Fixing and pursuing are the first conditions for the perceiving of space by the eye. How slowly this develops itself and how difficult it remains for a long time for the child to learn to estimate distances accurately, may be seen in the frequent mistakes children make in reaching for objects. It is well-known, for instance, that babies often reach out to grasp the Moon.

As the activity of senses, as we have seen, is the really predominant function in the mental life of the first years of the child, thus the sentiments we meet in that time of life can predominantly only be such as are connected with the activities of senses, thus sensuous ones. We have learned the most important now in the new-born child. To these are added later on, demand and anger, both expressed by a short, violent screaming without crying. With the awakening of higher spiritual life they are followed by higher *spiritual* sentiments. This is the case very early. Affection for its surroundings (expressed by laughter), dislike towards unknown persons (expressed by screaming or crying) I have observed as early as towards the end of the first quarter and the beginning of the second, in *Freia* even from the seventh or eighth week. In the former the emotion of love is rooted, in the latter that of fear and hatred.

Among the further feelings the appearance of the *sense of shame* is especially interesting. In the first years children find a native pleasure in nakedness. Girls and boys mixed; the presence of strangers does not abash them. On the contrary: the more, the better. But from a certain moment they begin to feel the sense of shame. Kate M. refused after about her 20th month of age to perform her natural functions before strangers, especially boys. Why? The children themselves have no knowledge of sex for a long time to come.

The child, like all living beings strives for nature with a great longing. The *sentiment of nature* potently lives in him.

On a sunny day it is quite as difficult to keep a child indoors as it is a dog. And this is a good thing. For out of doors there await it thousands and thousands of things with which it must get acquainted for the first time. To them goes the childish feeling of worth, the *interest*, in a much more passionate manner than in the grown-up person, who is rendered blunt for them through his business. Like man in general, the child also is already tuned to different feelings in special ways. This heterogeneousness has been called *temperament* since antiquity. The four temperaments which have been distinguished since olden times: the vivacious, warm-blooded sanguine; the irritable, bold choleric; the sad melancholic; and the cold-blooded, indifferent phlegmatic, are so well-known, that I need not treat them more in detail. The child in general appears in contrast with the grown-up person of a more vivacious, sanguine temperament. Its feelings, emotions and sensations are subject to a rapid change. Their causes are the directness with which they take place, independently from any checking contents of consciousness of reasoning, moral etc., the novelty of the impressions and the quickness with which a child tires and wearies of an impression.

The impressions taken in by the senses are gradually fastened in the mind and kept there. This faculty is called *memory*. Surely the first commencements of memory begin immediately with the functions of senses, but they are at first only weak and of short duration and therefore to be proved with difficulty. Sucking movements which the suckling makes in his sleep can probably be traced back to recollections. They only become traceable when the suckling expresses some recognition of former impressions. Thus the just mentioned observations of like and dislike about the end of the 1st and the beginning of the 2d quarter of a year, or even earlier, point to an activity of memory, for the suckling can only express like and dislike when it recognises known persons, and when unknown ones do not seem familiar to it. It is true that this memory is only a short one. The child does not recognise persons who have been absent for some time, not even its father. But after a few months the memory seems to be so strong, that the child remembers months back, even in special cases, the time before speech. In these times our attention has been drawn to such cases as curiosities. I can relate two which an attentive observer of children gathered from absolutely reliable sources. Theodore, the hero of the first of these instances, mumbled very much at the age of 5 months, and especially the syllables "Dya, dya, dya". Afterwards he ceased this babbling almost entirely. When

his grandmother came for a visit after 6 months, the mother told her how she regretted that her boy should have quite abandoned his "Dya, dya, dya" of former times. The grandmother wished to induce him to talk again and addressed numerous phrases with that purpose, and among them also the "Dya, dya, dya". He responded to none of the sounds except when she said "Dya, dya, dya" he laughed merrily but did not repeat the syllables. The same results were obtained every time the attempt was made. In the other case, a lady very often sang to her god-child of 3 to 4 months the nursery rhyme "A B C, the cat runs into the sea". She left the child at the age of 4 months. When the child began to speak 9 months later, it said "A B C daya snee". His mother had never sung this verse to him again.

Even the grown-up person may remember impressive experiences which occurred as early as in his second year, and certainly can remember occurrences of the following years. These recollections of childhood by the grown-up generally are related to adventures which were especially accentuated by feelings or attention, and have therefore been impressed lastingly into the memory, i. e. great joy, surprise, fear, fright, grief etc. My own earliest recollections are of the 3d year of my life (I can fix the date by letters). One was in my 30th month. At the end of a dinner I declared, "I dink no more coffee" (I cannot drink any more coffee). I cannot recollect the words any more, my father and mother have handed them down to me, but I well remember my astonishment at the loud laughter of the gentlemen present. Especially the one opposite me — he had black hair — I could still draw him to-day. My other recollections are of the 35th month. The servant girl in our summer home had taught us to kill frogs in a meadow in front of our house. My father came and scolded us violently. Another time we had missed our way in a wood and stayed there until dark. I was much afraid of the deer, there, and screamed "de deer tome". While we were groping about in the dark, the nurse-maid, who was looking for us, discovered us.

Impressions of senses which are perceived together, *perhaps* also those which resemble each other, are, as we have heard, connected in the mind. For instance, hunger and the mother's breast. This faculty is called *association*. The earliest associations are probably formed about food. Still another phenomenon is generally mentioned in connection with association. The impressions of senses kept and connected in the mind can be recalled into consciousness. For instance, as soon as the suckling begins to feel hungry he

thinks of his mother's breast. This faculty is called *recollection*. In the child which learns to speak one may observe a peculiar association and recollection, that of the sound of words. Thus the three year old *Irma B.* made of the "word soldier" which she did not understand, sulky man; the four year old *Sophy B.* of "fury", "furry"; the six year old *Daisy B.* of "church-mouse", "church-house". In the perception and explanation of the unknown word they stuck to its casual outward sound. A boy, on the warning of his father: "Do not turn that wheel" answered: "But I want to become a turner". Association and recollection are together *the original moving forces in mental life*. Occurring in themselves involuntarily, they form the foundations of the voluntary faculties of thought, with which we shall now become acquainted.

While the child becomes capable of always more complicated functions, it learns gradually to distinguish complicated impressions of senses, *understanding*, and to bring into relation those distinguished, *imagination*. We have already seen (p. 30) that we may with good reason imagine the development of perception appropriately in this manner, that the child at its birth sees perhaps nothing but a chaos of similar, scarcely distinguished impressions, some light and dark spots; these gradually become coloured and take form: food (milk), father and mother. These move in a space, the room, in this stand the cradle, playthings, a table, a press, chairs etc. The proceeding is one of progressing distinction. This occurs in two stages: at first it is done involuntarily, mechanically. The child learns without putting things together and quite spontaneously, to distinguish outlined forms in the few light and dark spots. In the second stage the distinction becomes voluntary. The child learns with the consciousness of a purpose, to know the nature of an object more certainly. For instance it takes apart its playthings, in order to know what they are made of. When, in learning how to speak, the child arrives at the knowledge of the interrogations "What?" and "Why?" it uses these achievements very fruitfully, to the torment of its elders, and asks a thousand questions on all that, before, it learned to discern with its senses or which it is now discerning anew. This epoch is called the *age of questions*. *Louisa B.*, 2 years and 5 months old, the interrogative age, walked into her mother's pantry with the indefatigable question "what is that?"

At first the child asks "*What?*". This question brings new conceptions to it. Then it also asks "*Why?*". This question carries with it the relation of the new conceptions to the old ones. A boy of three years and nine months, says

Sully, surprised his mother by the following questions: "What do frogs and mice and birds and butterflies eat? and what do they do? and what are they called? What are their houses called? What is the name of their streets, public squares?"

The questions of children are in general not thoughtless, but there is on the contrary deep sense in them. The parents ought therefore to become conscious that nature offers them by the children's questions an important means of education, and they should not put off their questioning children with the reluctant and stupid answer: "Because it is so!" which is an especially favourite answer of uneducated mothers and nurses. They should take pains to give a loving answer, adapted to the child's understanding. The answering of children's questions is positively an art. The second voluntary stage of the action of discernment especially represents what we are generally accustomed to call the *activity of intellect*.

Like discernment, association also occurs in two stages: at first it takes place involuntarily, mechanically. To the child, because it is itself conscious, everything else appears quite naturally to have consciousness, even inanimate things. So that it, for instance, calls the stick with which it is struck and the table against which it hits itself, "naughty". In the second stage, however, the connection becomes voluntary. You have only to observe children at play, if you want to know in what measure the child is able to create voluntary connections between things. As far-reaching as they may be on one hand, yet, since the circle of experience of the child has not become a rigid mass, especially since it is not yet hemmed in by tradition, and since the child is still quite unrestrained within itself, and since the novelty and variety of the impressions which act upon the child even demand a special vivacity of conditions, these associations of ideas are limited, and often charmingly limited by its limited circle of conception. A tender mother for instance lifted her little child of 6½ years onto the railing of a bridge so that he might look at the water. But the boy screamed lustily, and the mother was obliged to abandon the idea of this intuitive method of instruction. Later on he told his grandmother in confidence, why he had screamed. He had thought that he would be thrown into the water, because he would make a big splash. How sweetly this thought comes from a child's mind! It is especially the second voluntary stage of the activity of association which represents what we are wont to call *power of imagination*. A certain high point is said to have been observed in the course of childhood. The school of *Herbart* places it during the 7th year. According to *Sully* however the age for fancy should lie

nearer to 3½ years. Both however have failed to supply proof for their determinations of time. Understanding and power of imagination are the two poles of *thought*. Opposed to the domination of the activity of the senses in the mental life of the first years, the intellectual activities, for the moment, recede. Their ascendancy begins with the larger child.

On the results of the activity of the senses, contemplation on one hand and thinking on the other, is then built the first, though restrained, *circle of conception*. Its contents are for the present little more than food, play, the nursery and the parental home and its occupants. The first conceptions and notions of the child are very undifferentiated (original conceptions).

Play stands beside food in the centre of the childish circle of conception. From the point of view of the adult every occupation of the child which does not, like the taking of food, serve an evident purpose is play. The original games of children are nothing but simple manifestations of its mental functions, which have no other purpose but the exertion and self-education of the dispositions. They may therefore be called *games of function*. Everybody knows one of the very first of these games: The mother shakes a baby's rattle to the child's delight. It grasps it with its little hands and throws it wildly about in the air. In this simple occurrence are contained for the thinking looker-on most of the exemplifications of the play-instinct, which later on develop more distinctly and variedly. First of all the pleasure in executing a movement, in hearing a noise, in seeing a moving object, its colours, in touching it; and, as far as the suckling will imitate what the mother shows it, the pleasure of imitation. Lastly, also, the pleasure of experimenting. These are the germs of what develops into the playful activities: the impulse of movement, experimentation, (ill. p. 41) and imitation, the sense of touch, hearing and sight; and, in consequence of this, the games of movement, experimentation, and imitation, the games of touch, hearing, and sight. The reaction of all these games on the spiritual development, on the exercise of perceptions and dexterity, and their pedagogical importance are self-evident.

Everything cooperates finally to the formation of *self-consciousness* and with it of *personality*. What we observe in regard to this is in reality not the first beginning of consciousness, but only its first manifestation. For we cannot actually observe a first beginning of consciousness in the world. Consciousness does not appear for the first time in the child, but only enters for the first time into activity. The conditions necessary for its appearance are first of all the beginning of

the capacity of discernment, which we become acquainted with in considering the intellect. The child not only learns to distinguish the objects in the outer world from each other, but also, especially through experiences of pain, as well as by touching the parts of its own body and playing with them, i. e. sucking on the fingers, later on touching its toes, learns to separate these from one another, and lastly to separate its own body from the outer world. Although we may certainly presume the first simplest beginnings of this faculty of discernment to exist already in the mother's womb, we can scarcely imagine that the first dull sense of self-consciousness begins before a period of some months after birth. The first recollection of self certainly begins with most people, as we have already said, only in the second or third years, or even later. "I should like to know", says *Sonja Kowalewska*, "if anybody is able to fix that moment of his existence in which he realized for the first time a distinct conception of his own being — the first glimmer of conscious life? I cannot do it." The reason for the absence of recollections of self during the first two years reposes on the volatility of memory in the first and second years of life. It is not yet strong and therefore does not last long. Speech limps considerably behind the first manifestation of self-consciousness in learning the word "I", as it does generally in mental development. At the beginning the child uses the Christian name by which it is called to denote itself; it only learns towards the end of the second and beginning of the third year consciously to use the word "I". Formerly though, it was erroneously believed that that moment was the first for the feeling of self-consciousness.

The clear perception of an observation in consciousness is called, according to *Wundt*, *apperception*, the peculiar state which precedes it, *attention*. Attention occurs in two stages: at first it happens involuntarily, mechanically. The suckling responds immediately to a sensual impression, for instance, a clear light. In the second stage attention occurs voluntarily. The child may choose and substitute between two different impressions. But here too the strength of impressions is decisive, the precedence, though is more complicated. This



Experimentation:
What Will Fall?
Text p. 40.

higher degree of attention too, like apperception itself, may be observed after a few months. *Preyer* observed that his child in its 16th and 17th weeks independently looked at its reflexion in the mirror. In other words, it turned to an object and remarked it. *Freya* observed persons in her 8th week, contemplating them sharply and long, following them with her eyes and even turned around the better to see them. At this age a long fixing of attention is still impossible for the child. It can observe only for minutes at a time. And even in school it cannot fix its attention for long periods. In general the apperception of objects must precede the learning of words, receiving, however, important support from the learning of the words.

The existence of the suckling is divided between *waking* and *sleep* in reversed proportion to that of adults. While adults are awake longer than they sleep, the suckling sleeps longer than it is awake. Especially in its first years the child sleeps most of the time. Only from its fourth year, according to *Preyer* the time of waking outweighs that of sleep. The sleep of the child is deeper than that of the grown-up person. It is from the first moments of life animated by dreams, at least this may be deduced from the sucking-movements which the suckling makes in its sleep or from frightened screaming during sleep. The older child frequently takes its dreams for reality. Thus Louisa B. on her 743rd day was so excited by the dream of a cat which jumped on her bed and down again, that she would not remain in her little bed, and for several days would not sleep in it any more.

The physical epoch of the suckling ends with the appearance of the teeth, the so-called milk-teeth, some time between the 6th and the 8th month (in which the first inner incisors break through) to the end of the 2d year in which the molars come. The suckling then becomes able to take solid food and is consequently weaned from the mother's breast. The breaking through of the milk-teeth is of course only a single symptom of the general progress in development, but they react in a large measure on the mental development. The time which now begins is therefore called *the age of the milk-teeth*. It continues to the beginning of the falling out of the milk-teeth and the breaking through of the permanent teeth, the *change of teeth*, which extends from about the 7th to the 13th or 16th year. Childhood ends with the arrival of the second set of teeth.

Creeping, Standing and Running Child

Other symptoms of the general progress in development are the impulse of the child to assume an upright posture and the impulse for speech. First the impulse to stand upright. The new-born may, as is known, in no wise hold itself upright. Even if it is held upright, it lets its head fall forward or on the side, like the grown-up person in sleep. It only learns to hold its head upright after about 4 months. Then the mother



How the Child Learns to Walk:
Creeping.

can carry her child, which up till now she had to carry in swaddling-clothes for support, freely in her arms; the child becomes a real *carrying-child*. In the next months, up to the 6th, it makes a further attempt to sit upright without support; and some months later, towards the 10th, to stand alone, without help. Thus are developed the most important conditions for upright movement. Before this, as early as about the 6th month, many, but not all children, try a more simple manner of getting about: creeping on all fours. (Ill. see above.) But when they have learned to stand, at the end of the first year they also succeed in making the first step and with it to walk. The difficulty of the first step lies in the difficulty of balancing the body. We see the child as soon as it is let loose by its mother, maintaining its balance with its little

arms (ill. p. 44). With a joyful scream it takes a few steps to fall into the arms of its father opposite. This is the development from the *crawling and standing child* to the *running child*.



How the Child Learns To Walk :

The First Step.

Text above.

As the appearance of the teeth permits an amplifying of food, so the upright position frees the arms for a new use. First of all for grasping and for pointing. Through this the child becomes much better acquainted with the things of the outer world and learns to distinguish them as well as to find

its way around the room. Man's *preference for the right hand* is known, and becomes more striking by the few exceptions who prefer the left. It was formerly much believed that right-handedness arose through the mother's habit of carrying her children on the right arm, so that they were forced to make more use of the right hand. Left-handedness would then develop in those children who were carried more often on the left arm. But this opinion has a fallacy, as it presupposes a certain right or left handedness in the mother. Later opinions therefore assume more correctly a hereditary physiological dissimilarity of the right and the left half of the body, through which comes also the dissimilarity in the use of both sides. Most men also take much stronger steps with the right foot than with the left one, a fact which every shoemaker may confirm, through worn-out boots. *Freya* showed towards the end of the 4th and the beginning of the 5th month a preference for the right arm. In joyful and in angry moods she slapped the right side of her body several times. Up to then she had generally gesticulated with both arms at once, and used one arm only to attain a precise goal. I have not observed any outer influence under which this preference of the right arm may have arisen, I rather consider it as having come from some inner cause.

Speaking Child.

The most important by far among the symptoms of general progress is without doubt the utterance of its instinct for speech. For the climax of this development, the full spiritual maturity, is only possible by the means which prompt it, speech. A natural impulse for speech is, as modern research recognizes ever more distinctly, the basis on which the child learns its native tongue, becomes a *speaking child*. It is true that some previous conditions must first be fulfilled in order that the learning of the native tongue may begin. The most general is a certain measure of spiritual ripeness. The child must already know how to think, before it can learn to speak. But speech reacts again on the refinement of thought. What a child thinks when it cannot imagine anything in words, we see from many examples of observation. I remember, myself, in my childhood, that I, 6 years old, imagined as our soul nothing else but the muscles which I saw looking out of an open wound. Further hearing must have progressed so far, that it is capable of perceiving and distinguishing the words that are spoken around it. The mouth must have perfected

itself from the simple ability to *scream*, to the more complicated one of uttering sounds, the mouth's *mumbling*. We have heard before, that speech is simply movements of expression.

Beside many other developments of the organs of speech which occur singly, it is essential that the teeth appear in order to have speech. It is difficult to give phonetic sounds for screaming and mumbling. *Screaming* might in general be rendered by "eh, eh", which is generally uttered short, but, in passion, after a previous violent drawing in of the breath, is uttered in syllables of longer duration and repeated several times. *Mumbling* may be only approximately expressed with the limited linguistic number of sounds of our native tongue. In the beginning one may observe sounds like a, ae, e, b, m, w, g, r, dl, nasal ñ, of which the consonants often sound like syllables, ma, mae, ba, he, roe, ge; a little later on, combinations of sound as e-w, e-b (sounding like e-wu, e-bu), which are sputtered forth in a varied succession (babbling-monologues) and even serve for an actual conversation with the surroundings, or dialogue with them. As soon as the child grasps the connection of sounds and objects in the language of its surroundings, the understanding of speech appears in it. In the beginning it only understands the meaning of words, like Mamma, Papa; but later on of whole sentences. Speech is a reponse to the summons to do something. Lastly the child combines as a continuation of all these previous conditions its own sounds with an object in view: it *speaks*. This happens generally at the age of about nine months, but may not occur until the end of the 2d year, and in abnormal cases still later.

How many and great are the difficulties which the child has to struggle with in learning its native tongue, may be easily seen by the various transformations of words and their meaning. First the child learns single *words*. It suits their sound to its mouth, "mutilates" them. Compare for instance only the first 10 words of little Louisa B.: *mammamm* (in the beginning without meaning, afterwards food or as an interjection, man), *babab* (at first without meaning, then persons), *deda* (aunt, persons), *li* (Willy), *mra* (Irma), *huhu* (in fright, animals), *baebe* (Babette), *he he* (sounds without meaning), *bibi* (at first without any meaning whatever, then chickens, birds), *hei* (interjection). In the beginning it scarcely grasps the real *meaning* of the words and therefore uses them partly with less than their full meaning, and partly for more, or for something quite false. It also repeats in the beginning all sorts of words which it just hears, without grasping their sense at all or keeping them in its memory, *echo speech*. The first words generally have the meaning of an entire sentence, for instance *gir(l)* (look

at the girl). They are therefore also called *sentence-words*. It soon learns to express its thoughts by simply joining single words, for instance *Desi 'way, no garden bad* (Daisy has gone away. She is not in the garden. That is bad.) This stage is called the *period of sentences without inflexion of the words*. The following *period of sentences with inflexion of words* leads directly to complete speech. Up to a short time ago there was great doubt as to what share in the learning of speech might be attributed to the originality of the child and how much to its imitation of the native tongue. The *Rousseau* school seemed disposed to exaggerate the original gift of invention of the child which bordered on belief in the creation of a language; others, like *Wundt*, attributed everything to mere imitation. The middle position proves here also to be the right solution. The quarrel: originality or imitation, must therefore be settled in this wise, that an originality of the child may be recognized without doubt, but not in the sense of a voluntary, intentional one, an “invention of words”, but more in the sense of an involuntary, instinctive, hereditary one, which had to be present first, if imitation of speech was to be at all possible.

The *vocabulary* of the child is naturally very difficult to establish, the results of examination therefore differ widely. In general the child at the end of its 2d year of life seems to have at its command about 200 to 700 words which it can understand and use. But of this comparatively small number it makes a very extensive use. *M. C.* and *Harlow Gale* have taken the pains to note down the chattering of a child during one day with all its repetitions and have counted from 5000 to 10 000 words.

So complicated a mechanism as that of speech naturally undergoes disturbances. Mistakes of speech, called *stuttering* and *stammering*, and complete impotence, *dumbness*, are its principal forms. *Stuttering* and *stammering* are defects of function, often of a nervous order. *Dumbness* may be the effect of deafness, as hearing is a previous condition necessary for speech. But when dumbness does not result from deafness, disturbances in the brain are the cause.

“Big” or “Intelligent” Child.

After the stages of the *small child* which we have considered until now, comes a stage of more general mental ripeness, in the “big” or “intelligent” child. Mothers like to speak of their children’s accomplishments during this period. As a

consequence of the acquisition of speech, this stage sets in after the beginning of the perfection of sentences and embraces the 5th and 6th years of life, the last ones before the change of teeth, with the coming of which physical childhood ends (p. 42). Opposed to the dominion of the activity of the senses in the first years of life, in these older years the *mental functions* step more and more into the foreground. It is this stage especially, that uneducated and conceited mothers and wet-nurses of all times and places commemorate by their ridiculous exaggerations of the mental faculties of individual children as well as children in general. And, notwithstanding the barrier of criticism, these exaggerations have penetrated also into science where they continued to haunt the literature of the mental science of children up to the most modern times, even in the best writings. You may read there of the extraordinary faculty of observation of the child which sees and hears everything, of its phenomenal memory, remembering, before it knows how to read, the music-sheets of a mechanical organ, only by the small grooves; of its ingenious fancy which makes it capable of imagining things it never would be able to again in life; of its wonderful creative inventiveness which lets it so to say create its own language, and so on.

We remark that these are in general fundamental delusions. The human child does not equal in its functions the developed grown-up person. Such extraordinary utterances must therefore only be specious. The apparently extraordinary gift of observation and the apparently phenomenal memory are explained like so many other facts, through the child's moving in a very restricted circle of experience in which it naturally may learn to find its way very exactly. The seemingly ingenious fancy is explained by the fact that the circle of experience of the child has not yet become a fixed mass, compressed into tradition, that the child is still quite unbound within it. It runs about just as much with its mind as with its body. The apparent invention of the child in forming its language is explained as an involuntary, instinctive, hereditary originality. All in all, it is true that the child is bound to a limited circle of experience, but within this yet unbound, but in no wise extraordinarily gifted.

This epoch in the higher forms of its development is very much filled with *play*. It is the true *age of playing*. The most original games of the smaller child were nothing else but simple expressions of its mental functions, *function-games*. Such may evidently also be observed in the older child, only in other forms. Among the pleasures of executing a movement the preference of the child for its own *rotation* is re-

markable. Frequently children embrace an upright perch with one or both arms, or even grasp a little tree, with their feet on its roots, and chase around it in a circle. Two children can often be seen holding hands and bracing their feet against each other and swinging around in a circle (compare illustration on the jacket). Certainly the round dances of different nations have sprung up from these original inclinations of man. The games of the older child are always utter-



The Child's Most Favourite Games: Water.

Children's Joy.

Text p. 50.

ings of more *complex activities of life*, born from the impulse for activity and occupation. They may therefore be called *games of activity*.

The occasion of the game, the *plaything*, may be everything that the child needs to excite its interest; the simpler and more natural, the better. The more complicated and artful the easier it falls prey to the danger of satiety. It finds in nature (water, snow and ice, sand, fire, stones, flowers animals), in culture and society (of other children) in rich abundance, playthings exactly in harmony with its wishes (ill. "The Child's Favourite Game", p. 49—56). Among all others

Ament, The Mind of the Child

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the child likes water best, and sand and fire nearly as much. Is it not striking, that these are just the elements with which man began his culture? The more complex activities of man are of two kinds: First he has to take care of his bodily



The Child's Favourite Games: Snow and Ice.

On the Road to School.

From Oscar Pletsch, "Among Us Little Ones".

Text p. 50.

wants, and then those of the fellow-creatures socially related to him. The one activity of life is a cultural one, the other a social one. Therefore the games of activity are of two sorts, also, *cultural and social games*.

Playing the cultural activities of life, *cultural games*, may be observed by superficial observation of many games played in

similar form in many parts of the world. Much of their significance appears only after deeper observation. It may surprise you to hear that run-and-catch, and hide-and-seek are expressions of cultural activities. But they are nothing less than the expression of the original impulse of chase in man, with which he procured for himself in olden times an important part of his nourishment and his pleasure; and are therefore



The Child's Favourite Games: Sand.

Near the Sand-Mound.

From the Palatinate Spelling-book.

Text p. 50.

to be called *hunting-games*. The impulse for these games is evident in the quite small child, which shows its joy when someone runs away from it or from his hiding place calls "cuckoo". The older child contents its impulse of the chase in the above mentioned games, or occasionally hunts in earnest for animals such as butterflies, beetles, lizards etc. Further games of a cultural sort are those with building-stones, *games of construction*, with utensils, *work-games* etc.

The crown of all games is the game of sociable activities of life, *the games of society*. This lies in the instinctive interest

of animals in the creatures of a similar species. It causes it to prefer the game with its companion to all other games. The educational importance of this fact is great. *Jean Paul* therefore is right when he counsels playfellowship. "As men are made for men, children are consequently also for children!"



The Child's Favourite Games: Flowers.

On the Meadow.

Text p. 50.

The *love-games*, it is true, still stand in the background, except some allusions (playing "father and mother"), but even the *games of nursing* are early remarked in the playing with dolls and being Mamma (ill. p. 54). The *games of entertainment* (games of forfeits etc.) and *spectacles* (theatre and other representations and round-dances, ill. p. 55) and their impor-

tance in the life of the child are too well known to require exposition. But all these games lack the one thing which could secure them an interest outlasting the moment and continuing throughout life, the measuring of forces, or conflict or struggle. Therefore they may never, in the child as in the grown-up person, hold the centre of interest as *fighting-games* do. The boy wrestles, plays at soldiers (ill. p. 56) robbers, Indians, the grown-up person at sport. All these games



The Child's Favourite Games: Animals.
He Consents to Everything.
Text p. 50.

are a struggle of sides. *Teasing* is a purely mental form of the fighting game.

All nations possess a great number of children's games, handed over from generation to generation. Partly they are according to their origin the creation of generations of children; partly they are transmissions from the childhood of nations itself. The children have transmitted in play and dance, song and music, as is well-known, a great deal of nationality, which in quite ancient times had once been the possession of adults. This transmitted treasure of children's games has been recently taken up by pedagogues in the interest of natural

education. They gather it from the peasant-child and teach it to the child at school. Everybody knows these games, which the systematiser divides into games of running (rope-jumping, running, hide-and-seek), dancing games (round-dance), throwing and catching games (ball), singing-games, games of *mimicry*, and *juvenile, motion or tumbling games*, also, as far as they serve for the exercise of bodily agility and force of the body, *gymnastic games*.

Schiller and *Spencer* declared the game to be an outburst of an *excess of energy*, *Schaller* and *Lazarus* *recreation*. *Groos* became an adversary of both theories of excess of energy and



The Child's Favourite Games:

Doll.

Little Doll's Mother.

Text p. 52.

recreation. To the theory of excess of energy he opposes the view that the game must not necessarily be preceded by a state of repose, which means a storing up of forces. On the theory of recreation, he asserts, a thought which might be very fertile in a limited sphere, has been extended over the whole world of games in an unqualified manner.

Groos himself considers games as an *exercise* or *self-education* of the hereditary dispositions during the time of youth.

To me the game appears rather as a general *activity* and *employment*, with the useful effect of *development* of dispositions, especially during the time of growth.

For a child a game is an *art*. For it has come forth from nothing else but the simple playful activities of man. If we did not know this from the original achievements of art of the original and natural man, we could still read it in our language, for instance in the expressions, we "play" an instrument, a piece of music, a play. But the reflecting observer can also see this progress livingly achieved in the child. Compare the pleasure of the child in noisy and resounding objects, in the copy-drawing, in words and games of rhymes.

We shall consider copying and its result, *children's drawings*, a little more in detail.

At about the age of 2, 3 or 4 the child begins to travel

aimlessly with its pencil over the paper, which produces a confusion of broken lines, its first scribbling (ill. p. 57). It



The Child's Favourite Games:

The Round-Dance.

Text p. 52.

likes to say that it is “writing”, and this strikes the expert, because it seems to indicate that in the history of develop-

ment of the individual writing precedes drawing, while in the history of culture writing only formed itself from drawing. But in reality the child has neither an idea of writing nor of drawing; it only imitates quite superficially the use of the pencil by the grown-up person, and is quite indifferent to what the latter is doing with it. Its next interest is not bent on the realization of the acquirement of imitating characters, but indeed on figurative forms, at first simply by attributing to this aimless scribbling a figurative sense. I observed Rita M. at this period when she was 2 years and 7 months old. She



The Child's Favourite Games:

Soldier.

Text p. 53.

drew, for instance, a number of broken, curved, and twisted lines as "girly", designating the upper part as "head", the lower one as "foot" (ill. p. 58). It was still more interesting to see how she began a picture of a body as a "mouse" but in the midst of her drawing let it become a "little girl", which at its lower end received thicker lines for "hair", on the right side the "head", on the left a "foot", on the right, above, two "feet". There is evidently no thought of a resemblance of these parts to what they pretend to represent. But they form the passage to the first representation of real forms. As such we observe structures which represent nothing

more than the general outline of the portrayed object, without regard to its proportions. As every object akin to it possesses, by nature, the same outlines or similar ones, all these drawings wear the impression of a *pattern*. The child does not at first draw from nature, but from memory, even when the object stands before it. Therefore it does not at first draw what it sees but what it *knows*, and quite especially that which holds its interest, for instance the horseman on horseback with two legs, houses in cross-section, the tree with its root. What it does not know, it does not draw, or draws wrong, for example, animals with too few or too many legs, because it cannot yet count and does not therefore know that they have four legs, the flowers without filaments and pistils.

The further, greater and more difficult, development which remains ahead, is the *individualisation* of the pattern. One of



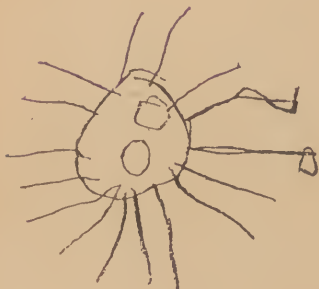
How the Child Writes:

First Scribbling.

Text p. 55.

the most important duties in this, is especially the representation of proportions. Only few geniuses are favoured with the ability to advance far in this respect without instruction. The most notable example is Dürer. Most men, if no instruction is given to further them, do not progress beyond these caricatural beginnings.

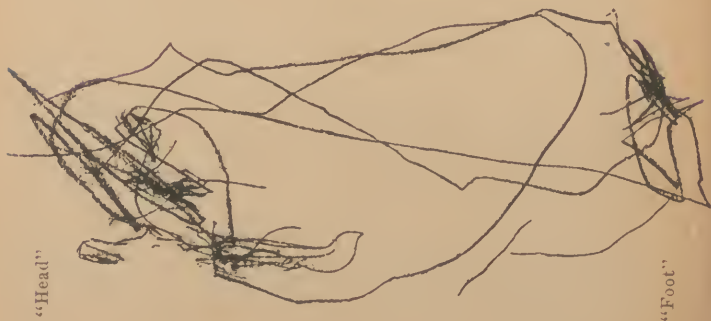
The child draws *man* preferably at first. It upsets, as has been genially remarked, so to say the order of natural creation, as it begins with man, instead of ending with him. This is quite easily explained by the child's interest which turns naturally first to that which at first and in the most impressive manner enters into its circle of view. Movement also attracts the childish interest very much. These facts remain the leading ones in the study of child-drawing. The child likes to draw *animals* and *houses* next in favour to man; less frequently *objects of trade and industry* and *plants*; but last of all, *geometrical structures* and *ornaments*. The drawing teacher has, as is known, up to now proceeded from an inverted view. Lessons began with geometrical structures and ornaments and finished with man. Therefore it worked against the childish interest and killed it.



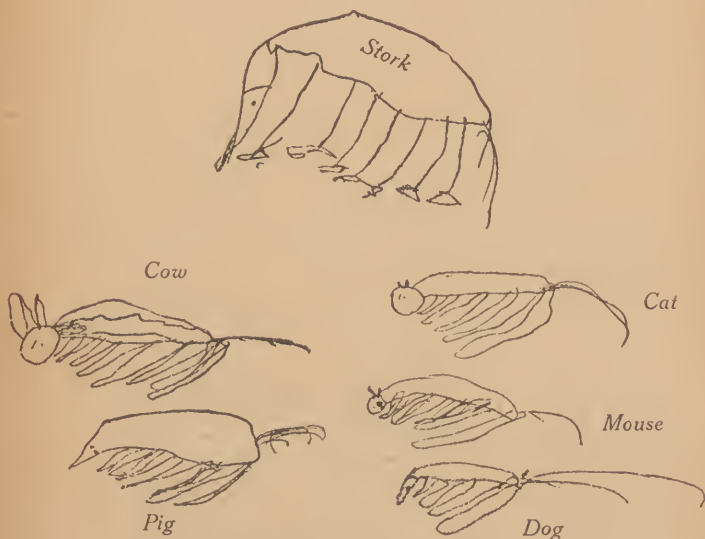
Hew the Child Draws:

Men.

Text p. 56, 58.



The child begins to draw *man* (ill. p. 58) according to the same laws, with that which excites special interest, namely the head and the legs. With the head certainly because it means the mental centre of man; with the legs because they are the organs of movement from place to place. Even in the scribbling to which the child alone attributes importance the first thing is indicated as "head" and "foot" (ill. p. 58). The head again, in the form of a circle, is generally drawn



How the Child Draws :

Animals.
Text p. 60.

much too large in comparison with the body. Next the child draws the hands. Lastly in general the trunk, as an oval. As it is in the habit of drawing the hands much sooner than the trunk, it simply hangs these to the head. In the head it draws the eyes and the mouth which it takes delight in ornamenting with large teeth. The hair also is accentuated by the child's favourite colour. The girl for instance who furnished the 2d, 3d and 4th drawings (ill. p. 58), Irma B., had red hair, which naturally was often talked about in the family. Through this the hair appeared to the child as something especially im-

portant and reappeared in all her drawings with great fidelity. In the trunk of the 4th drawing we see scribbling which is meant to represent the throat and the stomach. We just now observed that the child draws what it *knows*. Here is proof. The child had heard that man has a throat (gullet) and a stomach, and directly it drew both in all its pictures of man. Proportions in the front and side-views offer great difficulties. At first the child draws only the front-view. On going over, later on, to the side-view, it in the beginning combines both. (Compare the 4th drawing p. 58.) The child particularly likes



How the Child Draws:

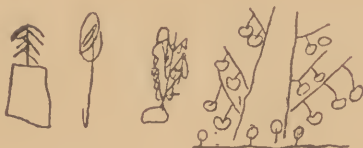
A Family of Cats.

Text p. 61.

to draw man in his activities of life, the living man; and lastly, also men in their social activities.

The *animal* (ill. p. 59) is drawn by the child after a pattern which consists of, let us say, a circle for the head, a line or an oval as trunk, an appendage as tail and a certain number of legs, at first uncertain, generally too numerous, but often also too few. The latter results, as mentioned before, from the fact that the child cannot yet count and does not therefore know that domestic animals have four legs. On this pattern it draws not only all domestic animals, but even birds. When the child has progressed in its development and understanding, it tries to individualize in this pattern. Thus for instance *Erna N.* five years old, tried with more or less ability

to reproduce a number of animals according to their characteristic markings, (ill. p. 59), *Irma B.* six years old, a family of cats, the mother cat with her kittens (ill. p. 60).

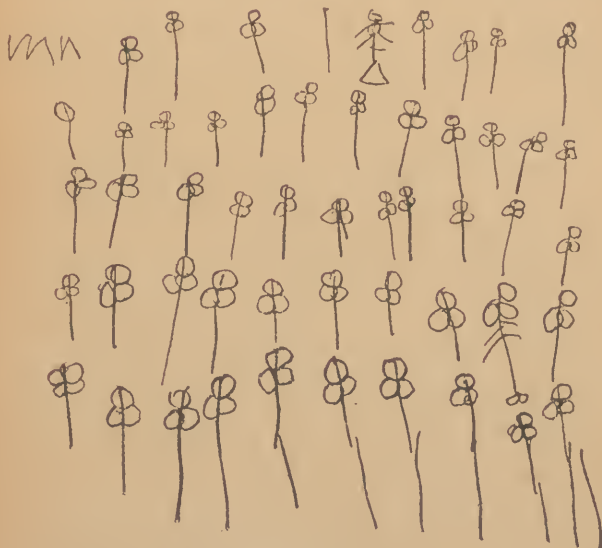


How the Child Draws:

Trees.

Text below.

The child only begins to draw *plants* when they become necessary for the picture of a landscape, less for themselves.



How the Child Draws:

Meadow of Flowers.

Text p. 62.

It begins with the *tree* (ill. above). The first drawings consist only of strokes which indicate the trunk and the branches,

and may represent any species of trees; then later comes a trunk with entangled balls representing the leaves, and only gradually branches hung with leaves are clumsily added.

Later on the child also draws flowers (ill. p. 61). They are to adorn the windows of houses, or are represented for themselves, and consist of misshapen stalks, leaves, and corollas which sometimes surround a window-pane. In these pictures you perceive only the large parts which easily strike the eye, but not the smaller, inconspicuous ones. These are not grasped by the child. So the trees are always without blossoms, because the blossoms of the trees of our woods are too insigni-

ficant to be perceived by the child, and the flowers lack their calyx, pistils and filaments. The meadow of flowers (ill. p. 61) drawn by Erna N. at 5 years of age, is interesting for showing how the child comes to terms with the problems of space. It simply draws in rows one above the other what we, in perspective, draw behind each other. The primitive races do the same and even the highly civilized nation of ancient Egyptians did not solve the problem of perspective any differently.



Howe the Child Draws:

House.

Text close by.

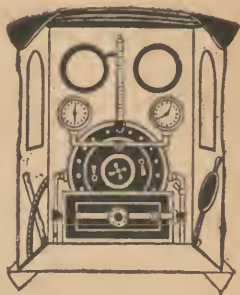
For houses the child has at first a very simple pattern (ill. close by), in which the roof, the windows and the door are the principal parts. Little flags and smoking chimneys also belong to the inventory of this

pattern. In the little picture reproduced, how the child indicates the architecture of the upper windows is noteworthy. Later on the child likes to draw houses in cross-section with the most exact reproduction of the whole life that takes place in it.

For many *objects of trade and industry* too the child shows an artist's interest, when it becomes better acquainted with them, as for instance its great interest in the locomotive, the moving engine. It is mostly represented in its outer form with a smoking chimney. Walter J.'s drawing of the machinery in the engineer's cab in illustration p. 63, is an exception to this rule. But just for this reason and some of its details this drawing is interesting. The imperfection of children's drawings reposes partly on the imperfection of the *skill of the little hand*, partly also on the imperfection of *observation* or

perception (of sight) and the *memory of forms*. They therefore appear as an interesting expression of childish nature.

In the history of culture *writing* arose as a refinement of pictures which served for conveying thought. In the story of the education of the child writing is learned through copying the characters made by adults, and this copying is in fact nothing else but a drawing imitation. In special cases we may see this very distinctly. I mastered, between my 5th and 6th year, long before entering public school, the printed as well as the written alphabet by nothing more than copying of news-papers and letters including certain words. I filled slips of paper and booklets without knowing the meaning of the letters themselves.



Little Walter F. possesses a toy locomotive in which the boiler, the levers, and other apparatus are painted according to the pattern of a large locomotive.



How the Child Draws:

Locomotive.

Text above.

After Walter had played more than a year with this locomotive he drew when he was 4½ years old, everything that was painted in the engineer's cab, freely from memory. It is interesting that he reproduces the two opposed stop-cocks in the same direction and mistakes the left and right levers. (The children in the beginning also mistake the words, left and right, front and back, and similar ones.)

Dear Mamma!

Send me
a drawing book
and a painting box
and a picture book
and a sketch
colour pencil

Your Charles

How the Child Writes:

A Child's Letter.

Text p. 65.

In general writing is only learned by systematic instruction. The subjoined letter of a 7 year old boy (ill. p. 64) may give an insight into the difficulties with which the child has to struggle, besides a more amiable picture of its mind. Another peculi-



How the Child Writes:

Mirror-Writing

Text see below.

arity which has been observed is that the child often writes mirror-writing, from right to left as readily as from left to right (see ill. above). All sorts of theories have been connected with this, oddly even the reversion of the retina picture mentioned (p. 34) has been brought in to explain it. This is however explained, as far as we have to do with normal and not weak-minded children, for a good part by the often mentioned fact, that the child is not yet accustomed to the traditions of its surroundings and their fixed customs do not all seem evident to it.

TIME OF YOUTH

By the end of its 6th year the mental ripeness of the child, which up till now has grown up under its mother's tuition, has progressed so far that the education it receives at home no longer suffices for the necessities and cultural interests of human society, in hand with this we observe an inner factor, which was already to be seen during the years of childhood ever since birth, but up till now stood very much in the background. This becomes more distinct and gains importance in the mental life: It is *sex*. It comes into appearance in the boy and the girl.

Observed from the point of view of science we step here on very uncertain ground. The modern research which we began to collect under the conception of children's mental science, had in the beginning occupied itself especially with the first years of the child's life, and at the most with its first school-years; but had as good as halted before the later years and especially before the development of ripeness of sex. But here too we have an expert observer, and not a bad one, the folk. We heard on another point (p. 17 ff.) that man was principally distinguished from the animal by his upright gait, reason, speech and self-consciousness, that therefore the people had seen in the first development of the child the steps from the animal to the human being and named these, and that science could not do better than to accept these good distinctions and denominations from the mouth of the people, and to seek with its own means to gain a deeper understanding of them. To these factors which the common man has in general justly seen and named, we can add another one for the later years: ripeness of sex.

If we look for the outer markings of sex, the expert observer recognizes from earliest childhood a difference in the bodily and mental organisation of the sexes, but this difference is not yet very strongly marked. The boy still has many girlish and the girl many boyish features. This state in childhood has been actually called by *Freud*, *bisexuality* (double sexedness). It is an echo of the development of both sexes from an originally equal disposition. In the development from this similar disposition it happens, according to a simple principle, that in proportion to the developing sex certain symptoms are reinforced or weakened, developed or lost, bodily as well as mentally.

Will is more prominent in the boy than in the girl. The boy therefore likes excessive expressions of force; is wild,

courageous, mischievous, regardless, pugnacious, disobedient, sullen; the girl delicate, quiet, docile. The actions of instinct are divided in a characteristic manner between boys and girls. In the boy the instincts of protection and of gain step forth (playing soldier, handwork); in the girl the instinct of the mother (playing "mother", doll etc.). Sensitiveness to charm in the girl is stronger than in the boy. The central trait of character of the girl is more the feeling; that of the boy more the intellect. The girl is therefore more sympathetic with other creatures, more disposed to bel-esprit (flowery language); the boy more reflecting, more logical, more calm. The girl may be more agile in intellect; but the boy is deeper. Genius is a prerogative of boys. The girl in her work is more reliable, more thorough; but the boy more creative and because of the ease of his spiritual performance also more frivolous. The ideals of the girl are beauty, virtue and religion; those of the boy truth and righteousness. The energy and ability to work is greater in the boy and more lasting than the girl's. Lastly, self-consciousness is stronger in the boy than in the girl. The boy already feels himself independent; the girl dependent on circumstances. In the consciousness of his inner value the boy is prone to neglect his appearance; while the girl very early, without at first quite knowing why, is given to finery and consequently is easily led to vanity, affectation and sensitiveness.

The sexual development thus seems so to say the central development, and the sexual ripeness as the central and culminating point around which the entire development is grouped.

In all changes which henceforth appear in the personality of the child, sex plays a considerable if not the decisive part. We naturally cannot to-day look into the causes of this development, and there is no knowing if we shall ever be able to do so. The forces of heredity are the most important here. But also education can still maintain its influence on the child. In occupying in play and earnest, the boy in boyish activities and the girl in girlish, it prompts the development of sexual dispositions and tempers them. Through an unnatural reversal it may therefore do much harm, quite especially by making the boy effeminate and womanish. He must develop much further from similar beginnings in childhood to his sexual ripeness on account of the special demands made upon him in the struggle for existence. For this reason, I do not approve an unconditional joint education from the period in which the development of the boy and the girl distinctly diverge: it would equalize where it ought to individualize.

School Years

After this general consideration of the period of youth let us consider one of its more important parts. As at the end of the 6th year the mental ripeness of the child, grown up under its mother's schooling, has now attained a height for which this education is not sufficient for the further instruction demanded in the interest of human society and culture, we now send the child to a public school. Then, begins an entirely new and important part of its life. Such an abundance of new influences rush in upon its mind, that, occupied with their elaboration, it receives from them, for a long time to come, a peculiar impress. These years are therefore called the *school-years*.

If we wish to characterize the duty of school quite in general, we may perhaps say that it is the exercise of the *impulse of action* for acquiring dexterities, and the enlarging of the *circle of conception* for acquiring *knowledge*. For in these two last duties culminate all the many varied and counteracting individual duties, with which the school is concerned. The methods by which the child tries to fulfill these duties, the learning to read, to write, to calculate, etc. are of no interest here. We are interested only in the circle of conception itself. And first of all the fundamental question with which the teacher must begin his activity: How large is the extent of the *circle of conception of children of six upon entering the school*? All investigations which were made to ascertain this, gave the same result, that children come to school remarkably poor in conception.

The first investigation, undertaken in 1870/71, established, by means of a list of queries in the city schools of Europe the children's possession on entering school of various appropriately selected conceptions; for instance of a hare running in the open air, of the phases of the moon, of a mountain, a lake, a corn-field etc. With this the emphasis was always put on whether they had seen each thing in its natural associations, the hare running in the open air, the moon in its phases etc. Of 10 000 children only 6215 declared that they had seen the moon in its various phases, 4062 had seen a corn-field, 3248 a mountain, 2466 a hare running in the open air, and 2078 a lake! There was an interesting difference between the boys and the girls. Three quarters of the chosen conceptions were known by fewer girls than boys: the girls therefore appear to be poorer in conception than the boys. But it is interesting that among the remaining conceptions

which were known by more girls than boys, were the name and profession of the father and a thunder-storm, and similar ones.

It is true that this method of investigation is open to serious criticism. On one hand the children have conceptions for which they have not learned words, and on the other hand they learn words without connecting with them the conceptions which belong to them.

And what do children often understand by a word? Many beginners in school speak with difficulty. Thus when a child is asked for a conception by its name, its "yes" or its "no" need not necessarily be the right answer. Notwithstanding this, much truth is revealed on the average, in these investigations. They have been often repeated in America as well as in Europe, with local and other changes in the list of conceptions. But always with the result, that with all the difference which smaller towns and villages show in contrast to the city, the children come to school with poor conceptions, and the girls poorer in conception than the boys. Only in one investigation were the girls found richer in conception. Town-children were repeatedly found poorer in conceptions of nature than country-children. The cause of this defective circle of conceptions lies for the greatest part assuredly in the defects of the surroundings which give too little occasion to the child for acquiring knowledge. That for instance one third of the children on entering school had not yet seen the moon in its phases, may be probably explained through the fact that the children are put to bed early in the evening, and assuredly also through the conditions of the dwellings of large cities (cellar-lodgings, etc.) *Hall* very justly attributes the pooriness of conception to the fact that the child's characteristic question: "What is that?" is answered at home much too infrequently and incompletely. The greater poverty of conception of the girls may for a large part be a consequence of our secluding and shutting them in from their childhood, by which we in reality do not make them better, but only inferior.

On this unsteady foundation our school system has yet been able to build solidly. With endless patience and unselfish pains the children are taught the various necessary conceptions of the *world*, the *soul*, *culture* and the *ideals* of *Truth*, *Beauty* and *Morality*. What conceptions have the children often, before they come to school, of all these things? The latter, the conceptions of *ideals*, encounter naturally quite special difficulties in the child. The Christian faith has certainly pretended, in the interest of the doctrine of original sin, that these conceptions were innate in the child, and has

found in philosophy and mental science numerous thoughtless repeaters. Happy the school, if it were true! But every clergyman may establish every day in religious instruction that the old tradition does not repose on actual observation, but is only a pious myth. The child brings into the world neither a conception of God nor one of ideals, it does not even have them when it comes to school and must therefore acquire them with difficulty in the course of years. When it begins to imagine God, this is not done abstractly, but palpably in the form of a man, mostly an old father who never shows himself.

"If only I might once see the good God", exclaimed the 5 year old Anna B., "I would not always forget him again". And another time: "When was God born?"

At first the child *acts* simply from unconscious impulses of nature. Only through the effect of its actions in human society subsequently does the moral consciousness of good and bad arise. The child is often reproached for its tendency to utter *falsehoods*. While some held the child for a liar by nature, others opposed this theory, as the child lacked the consciousness of falsehood. In fact lying is indulged in at first for obvious reasons, among which one of the most important, perhaps, is the quailing before the authority of the educators. Only through the effects of the lie does the child become aware of its existence and its infamy. Moral consciousness awakes late and perfects itself only with the ripeness of sexuality. Too often it never develops fully because of conditions of life or of temperament. Then we observe the picture of *moral weak-mindedness*.

The enlargement of the circle of conception generally was left to take care of itself under the mother's tuition. In the public school it is now methodically developed. The reception of new impressions, hitherto depending upon chance, takes the form of intentional *learning*. And if up to now the most important external means of activity had been the casual, amusing play, it is now fostered by earnest *work* conscious of its aim. The laws under which the scholar achieves his work, have only been studied in recent times. First, the question whether the child worked better individually or in company, at home or at school, demanded special attention. Two teachers, *Mayer* and *Schmidt*, have initiated experiments for the solution of this problem. *Mayer* decided the first problem in favour of work in company, *Schmidt* the second in favour of work at school. The competition with his equals thus seems to exercise an inciting effect on the child. A colleague of both, *Pfeiffer*, then investigated in far-reaching ex-

periments the types of work specially fitted to activate conception, and established many of the best types fitted for school-children.

The years of adolescence have a quite special tendency. In part, you may observe a tendency to naughtiness and violence. *Churl* or *lout* years have long been popular expressions. In part there is the inclination to comport themselves as grown-up: the young man as a gentleman, the girl as a lady. These are the *blockhead* and *hobbledehoy* years. These traits were seen clearly and justly in themselves, but their connexions were obscure. Churl, blockhead and hobbledehoy years were mostly thrown together and the hobbledehoy years of the girl compared to the blockhead years of the boy. Partly they were understood before, partly after the maturity of sex. And science did not go deeper than people's observation. Into this chaos the more modern research has made a breach. *Schmid-kunz* especially has earned merit for his perceptions. "Block-head" or "churl years" on one side and "lout" and "hobbledehoy years" on the other are different phenomena. The first take place before sexual maturity, the latter after it.

Blockhead or Churl Years

The blockhead or churl years offer a picture of wanton raging, bodily and mentally. Petulance, chaffing, obstinacy are preeminent signs of these years. To sneak away the chair from under a person who is sitting down; to carry away the ladder from the loft when someone is in it; the ringing of other people's house-bells; at school to make a fool of the master, to smoke cigars, these are the usual feats which the youth accomplishes in these years. People call them knavish tricks. The blockhead-years very much depend on the character for the course they run. In strongly marked characters they appear more distinct than in undecided ones. They appear in both sexes. The churlish girl corresponds to the knavish boy. But these two show great differences. In the stronger boys the churlish years appear more distinctly than in the weaker girls, and therefore the churlish girl has up to now often been overlooked. In the boy they manifest themselves more in especially manly traits, for example, in jostling, rows, etc. In the girls, more in especially womanly traits, namely snappish expressions, much laughter, etc. The cause of the churlish years must be looked for chiefly in the fact that the energy which has accumulated before sexual maturity, does

not yet discharge itself sexually, and therefore seeks an outlet in other expressions of force.

The boy does not love the girl, he beats her. She defends herself by word of mouth, even also by deed. In young people who, in school or because of other conditions were curtailed or hindered for a long time in committing extravagances, one may observe about the 20th year, when they are freed from their fetters, still a *second period of churlishness*. Quite the same boyish tricks are repeated, only they now have a different name, to wit "student" tricks.

THE YOUNG FOLKS

(Age of Development)

In our latitudes towards the middle of the second decade, with girls from the 12th to the 15th year, with boys on an average one or two years later (in consequence of the actual differences the time attributed by various observers varies considerably), there begins the last and greatest transformation in the rising development of man, *puberty* or *sexual maturity*. In a stricter sense the single individual develops his full capacity for the perpetuation of his race. In a larger sense, also, comes the full maturity of the whole person and individuality, he becomes able to come to grips independently with life and undertake the duties which result from procreation. Our mental life is thus dominated, in a much more complete manner than we generally are aware of, by the sexual life. This revolution in the life of the individual takes up a number of years. It is considered accomplished with the ceasing of growth, to wit in the girl towards the 20th, in the boy towards the 21st to 25th year. Notwithstanding this, it would be false to believe now in a standstill of development. Arrived bodily and mentally at the height, development now turns to broadening and deepening.

Blockhead and Hobbledchoy Years

The first years of sexual maturity present a picture of its own. With the ripening of individuality, self-consciousness grows in a disproportionately high degree. The young folks

wish to be treated as mature individuals, (they want to be taken seriously). But they are only half or one third mature.



Adolescence

Caspari, At the dancing-lesson.

Text p. 74.

They put on the air of adults and come into conflict with the authority which was effective up to now. But this desire accentuates still more sharply, for the moment, their imperfections. They offer the picture of the plump, the awkward, the comical, the caricature, the would-be-great, the image of the half-youth or half-virgin, or of the *blockhead and hobble-dehoy years*. The young man wishes to play the part of a gentleman and becomes a blockhead; the young girl that of a lady and appears like a school-girl in long dresses. How it has been possible to connect this period with the churlish years, appears to me a mystery. For they are the exact opposite. If the churlish girl shows herself as quite a child, the older girl tries to appear grown-up. It is strange that art has always taken more interest in the years of complete maturity than in these years of imperfection and immaturity, and

taken interest in these later years only to caricature. — This lies in the nature of the subject and speaks volumes. Caspari has for instance caricatured adolescent boys and coquettish girls in an exquisite manner (ill. p. 73). Very characteristic is the dialogue for this picture. Young lady: "Awful, now I have no escort — and have still a quarter of an hour's walk home — at such a late hour quite alone . . . !" High-school-boy: "I'm much more fortunate! I have only three minutes' walk!"

Age of Majority.

Blockhead and hobbledehoy years disappear by themselves with the arrival of sexual maturity, the *age of maturity*. The male and the female development withdraw in different directions from the original homogeneous disposition. While they both get equipped for their special sexual functions, the woman is being more adapted for the special care of children; the man more for the general care of the family and the struggle for existence. Thus the woman appears much more as a sexual creature than the man. Her thoughts are directed in a much more one-sided manner on the erotic than those of man, although another instinct bids her veil this.

In the faculties which are developed in the struggle for existence — intelligence, energy, courage — she by nature remains behind and appears throughout her life more childish, more ingenuous. In many dialects "child" means only "girl", and the colloquial tongue also speaks of the maturer girl as of "a pretty child". Her entire duty and disposition forces her to live in dependence on man. But to call woman on that account, by nature and in general as of *inferior value*, as has been done by physicians (*Möbius*), where one is always disposed to displace normal conceptions by morbid conditions, is a positive error and at the same time a moral injustice. Should man really from the point of view of intellect and activity throw this reproach on woman, she might return it in view of her capacity for sacrifice in the service of children and family, possible only through incomparable sensitiveness. Woman is quite as perfectly adapted to her task as man to his. And she has for *her* part in the history of the progress of culture collaborated quite as honestly as he. Thus it is impossible to denote this creation of nature as of inferior value. *Man and woman are both by nature of full value, but each in his own way.* Another question is certainly the *degenerations* which *both* have undergone under the effects of social communion in the lapse of long spaces

of time, woman as a consequence of her oppression through man (irritability, moral weaknesses) and her defective education (lacking of higher interests): man as a consequence of his unrestrained independence (brutality, sexual boasting, obscene stories). In the *young man* is awakened the impulse for woman and for procreation, in the *virgin* the deepest longing for man and child, and therewith *love* and *hatred*, the innermost stimulants of sexual life and therewith of mind in general. The first symptoms of love certainly begin much earlier. I myself remember very distinct impulses of love in my first school-year.

Sonja Kowalewska fell in love when 9 years old with her old uncle Fedor and at 13 years with Dostojewski, then 43 years old. "I adored my uncle," said she, "really; to say the truth I could not answer that with this feeling was not combined a sort of being in love, of which little girls are more capable than grown-up persons imagine."

But this childish love takes in unspoilt youth a thoroughly spiritual turn, as *Goethe* remarks. It is contented to look at the beloved person. Love puts into the centre of man's circle of conception the woman, in that of woman the man, and therewith *wooing* begins. The wooing of man is a wooing in a more narrow sense, an initiative one. His means of wooing are the force of his body and his soul. He who, as a churl, has beaten the girl, becomes now her obedient servant. The wooing of the woman is a wooing in a larger sense, a suffering, surrendering, receiving one. Her means of wooing are beauty of the body and of the soul, bashfulness and chastity, amiability and witty and sociable accomplishments. She tends to enhance the beauty of her body and her soul by her dress. Her bashfulness is an instinct of defence against sexual attacks, which offend the claims of natural selection. But she often does not directly follow the beloved man, but shuns him in the beginning. She must in consequence possess quite special merits, since the man does not give up his wooing but pursues it more ardently. As this instinct permits only the very best individuals to arrive to a successful wooing, it appears an accommodation as remarkable as expedient. Especially the young man, but also the virgin (maidens' dreams) is full of an unlimited idealism, which only too easily degenerates into juvenile enthusiasm. Now the first dramatic conflicts of life take place. They are experiences which enrich you. The aim of wooing is the attainment of *father and motherhood*.

It generally finds its accomplishment in the social form of *marriage*. With it begins the closest and most sacred duty of woman, the education of the child. It supplies her with

a natural instinct, but which like all instincts is blind and must not do without correction through experience and knowledge. The sexual life of the mind determines also all her other demeanour. *She plays the part which she plays in the sexual wooing also in life in general.* Man an initiative one, woman a suffering, surrendering, receiving one.

Sexual maturity entails deep-rooted changes of the organism and very easily produces disorders. It therefore appears actually as a critical time in development. We do not mean sexual disorders exactly, but rather checks in development, disturbances of mind and spirit, especially of an erotic manner. Growing girls sometimes possess an exuberant sexual fancy, which here and there finds an utterance in slanders against educators and teachers.

If for conclusion we come back once more to the question we put in the beginning: Where do our minds come from? we may now say that it is true that through science we know infinitely more than the old faith and religion knew, and nevertheless know nothing. Science has taught us an abundance of interesting details, of which faith knew nothing. How in the child the first will manifests itself; how the organs of sense enter into action for the first time; how the child feels pleasure and dislike; how it learns to think and to speak, and a hundred other things; in one word, how its mind in some epoch in some place enters into function for the first time. But how the *Mental* as such arises for the first time, where the mind comes from, we have not been able to gather from science, either.

With this question we stand on the whole at the limit of science. Science remains in the realm of experience, and experience will always see the mind only as a sum of separate appearances. But what is behind this range, this sum of separate experiences, we shall never be able to learn; but at the best only to suspect. Here begins, as it did formerly, to-day also, but to-day in a much deeper sense than formerly, the realm of imagination and faith.

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